# Parking Study
# for
# Downtown Huntington Beach

Prepared for:

**The City of Huntington Beach**

September, 2009

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Prepared by:

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# PARKING STUDY
# FOR
# DOWNTOWN HUNTINGTON BEACH

## OVERVIEW OF DOWNTOWN HUNTINGTON BEACH PARKING

There are approximately 2,700 public parking spaces in Downtown Huntington Beach. The parking space inventory represents a valuable asset that is managed and operated jointly between the City, contracted parking facility operators and the downtown businesses. This total includes 760 on-street spaces; City-owned off-street facilities; privately-owned off-street facilities available for use by the general public, including the new 424-space Strand garage; and privately-owned off-street parking lots that are available for use by the customers and employees of that business.

This parking supply is vital to the success of downtown and its businesses, and is therefore the subject of interest and concern – from residents, business owners, business patrons, downtown visitors, and the City. The primary concerns are summarized below as questions that are often asked:

- Are there enough parking spaces downtown now and will we have enough in the future if additional development occurs – as a result of the Specific Plan Update?
- Who is responsible for managing the spaces that exist, who will be responsible for building more?
- Where will new spaces be located and who will pay for them?

This parking study answers these and many other questions based upon surveys of the existing demand, analysis of future conditions based upon the Specific Plan Update, and input from downtown stakeholders and City staff. Recommendations are provided to improve the existing conditions; to prepare for new development; and to address the parking needs of different user groups, the demand fluctuations of different times of the year, and the maximization of parking capacity of the different facilities.

While much of the public's concern is about whether or not the existing businesses are providing adequate parking to accommodate the demand, and how or if new development will provide more spaces, one of the biggest challenges is accommodating the variable parking demand from the beach and pier. The beach and pier often require a significant number of spaces but do not have a specific parking requirement. Many beach and event-goers park throughout downtown, and while they may also be customers of many downtown businesses, the beach is their primary destination and they tend to park for longer periods of times than typical business customers.

The demand for downtown parking spaces is very dynamic and seasonal. Demand changes throughout the year and changes even more when special events occur downtown and at the beach. The answer to the question "Do we have enough parking spaces?" is different, depending upon the time of the day, week and year. This is common for many downtowns, but unique in Downtown Huntington Beach because of the close proximity to the beach and the high level of beach activity. Most other southern California cities with downtowns near or adjacent to the beach do not have such extensive and wide open access to the beach.

According to the analysis conducted for this study, enough parking exists to accommodate the downtown parking demand during the time of year when school is in session. Parking demand is typically below 70% of capacity, with some exceptions for winter holiday weekends. The demand is primarily from customers and employees of the downtown businesses, with relatively low beach activity.

On summer weekdays, parking facilities (on and off-street) are approximately 80% occupied. Parking facilities are between 90% and 100% occupied on typical summer weekends and demand exceeds parking capacity during summer holidays and special events. Additional parking alternatives within or adjacent to downtown is needed to accommodate the demand during these times.

The City has a variety of formal and informal parking programs to address the needs of different users – such as parking permits for some residential streets, parking passes for beach-goers, in-lieu fee payment alternatives for business owners, and validations for customers. The programs help the City and the parking facility operators manage the parking asset.

Several different downtown parking principles and issues specific to Downtown Huntington Beach were considered, discussed and analyzed as part of the parking study. Clarification of these principles and issues helps to explain how parking is provided, managed and used in the downtown. The discussion and explanations of these parking principles and issues provided on the following pages also help to define the specific recommendations and the issues to which the recommendations are targeted.

## PARKING PRINCIPLES AND ISSUES FOR DOWNTOWN HUNTINGTON BEACH

### Parking Demand Varies

The demand for parking in the downtown area varies greatly during different times of the day, and different times of the year. The variable demand is most associated with summer beach activities, special events with regional and national draw, and holidays. During these times, parking is in high demand, spaces are harder to find, traffic congestion increases while people look for parking, and some of the adjacent neighborhoods streets are compromised. During the other times – approximately 70% of the time – there is available parking throughout the downtown in different locations. The number of available parking spaces is heavily influenced by how many people go to the beach and use their vehicles to drive there.

### The Demand for Beach Parking Affects Downtown Parking

During peak times, the demand for beach parking significantly exceeds the beach parking supply. The beach parking supply in the vicinity of downtown consists of the two beach lots on either side of the pier (approximately 600 spaces) and on-street parking on PCH. Given the limited supply of beach parking, during high demand times, people who go to the beach park throughout the downtown, occupying spaces intended for business customers and employees. While many of the beach-goers are also customers of downtown businesses, they tend to park for longer periods of time, occupying downtown parking spaces while they are at the beach, and resulting in lower parking turnover.

Beach-goers and event participants park in the downtown for one or more of the following reasons:

- There is not enough beach parking . . . but even if there is still beach parking available, some people choose to park in the downtown because:
- Some street parking in the downtown is free with no time restrictions,
- Some downtown parking is cheaper than beach parking,
- Downtown parking is more flexible time-wise than beach parking,
- Structured parking provides shade from the hot sun,
- It's easy to get some or all of the structure parking costs covered with downtown business validations, even if they did not patronize a business,
- Beach parking passes are inexpensive and are accepted in the Promenade structure, and other places outside of the downtown area.

By allowing beach pass users to park at the Main Promenade Parking Structure and at the meters located along the Pacific Coast Highway, the City is eliminating the use of those parking spaces to other transient parkers. The last rate adjustment for the Beach Parking Pass was in 2001 with an adjustment to the current rate of $125.00 per year.

**Price and Time Restrictions Influence Where People Park**

How much people have to pay to park and how long they are allowed to park directly influences where they park and for how long. The prices charged need to be based upon where the City and downtown businesses want longer-term parking (employees and beach-goers) to be, and where short-term, high turnover parking should be. Higher prices should be charged for prime spaces, including on-street parking, particularly on-street along Main Street and the first two blocks of each cross-street, and the prime access levels of parking garages. Lower prices should be charged for locations that can better accommodate long-term parking. Time restrictions and pricing based on duration can also influence where long-term parking occurs The price differences should also be reflected in permits and the Beach Pass. Time restrictions must be enforced consistently.

**A Mix of Land Uses Results in Shared Parking and Lower Development Parking Requirements**

A vibrant, economically viable and successful downtown combines both public and private parking opportunities to create an environment in which visitors park once, and walk to multiple destinations. Downtowns should provide sufficient, but not excessive public parking supply. Residential development should be "self-parked" – that is, provide its own off-street parking to accommodate the calculated demand of each residential development. Businesses should provide the parking required to accommodate their demand – but the downtown business demand should be considered as a whole, rather than as individual developments. The mixed-use nature of a downtown environment creates a shared parking environment, thus allowing for fewer spaces to be provided for each individual development to accommodate the demand for business as a whole.

"Shared parking" is a practical response to the parking demands from the combination of downtown land uses. The concept of using one parking space to serve two or more land uses without conflict is an efficient management of the parking supply as an asset. Conventional regulations require that each development, or land use type, provide enough parking to serve its own peak demand, leaving unused parking spaces during the off-peak periods. Shared parking allows multiple complementary land uses, whose peak parking demands do not coincide, to share the same pool of parking spaces, resulting in a more efficient use of those spaces.

This "sharing" of parking supply is in contrast to typical suburban parking requirements where each building is required to provide parking on-site for its own users, but rarely fully utilizes its own supply. According to the Urban Land Institute's Shared Parking (Second Edition, 2005) " ... shared parking has been a fundamental principle of downtown planning from the earliest days of the automobile."

A mix of land uses can effectively "share" a common pool of parking spaces, as long as the highest demand of the day can be accommodated. The result of shared parking is a lower total number of parking spaces than if each individual use is required to provide for its own peak period. This works in Downtown Huntington Beach – except for when beach parking and special event parking demand exceeds the beach parking supply.

The parking data collection and shared parking analysis in this report indicate that the reduced parking ratios for downtown development, which are based on the shared parking concept for mixed-use development, are adequate to provide the parking supply needed for the downtown businesses themselves.

In addition to increasing the efficiency of a limited parking supply, shared parking reduces the overall cost of providing parking. In downtown areas where development intensity and floor area ratios are high, blocks and individual parcels are small, and land uses are predominantly small businesses, it can be prohibitively expensive to provide designated and exclusive parking for that business which satisfies typical zoning code requirements, particularly if structured or underground parking is required. Typical downtown areas have the advantage of being able to combine resources to fund and maintain a common pool of public parking for all users.

**Shared Parking and Other Downtown Parking Management Measures in Nearby Beach Cities**

An internet search was conducted to identify what downtown parking management measures have been implemented by other nearby beach cities to address their downtown and seasonal parking needs. A matrix summary of some of the results of the research is provided in the chart below.

**Summary of Parking Management Measures for Downtown Area In Use in Nearby Beach Cities**

| City | Reduced Parking Rates for Downtown / Mixed Use Areas | In-Lieu Fees Allowed | Peak Season Fee Structure | Residential Permit Program | Annual Permit Program | Remote Parking - Seasonal | Shuttle / Trolley Service | City Transit Service to Beach / Downtown |
|---|---|---|---|---|---|---|---|---|
| Huntington Beach | X | X | X | X | X | | | X |
| Newport Beach | X | X | X | | X | | | |
| Laguna Beach | X | X | X | X | | X | X | X |
| San Clemente | X | X | | | | | | |
| San Diego | X | X | | X | X | | X | X |
| Manhattan Beach | X | X | | | | | | X |
| Hermosa Beach | X | X | | X | | | | X |
| Santa Monica | X | | | | | | X | X |
| Santa Barbara | X | X | | X | X | | | X |

A variety of parking measures have been implemented by the cities to address their downtown parking needs, such as in-lieu fees, peak season fee structures, residential permit programs, annual parking permit programs, remote parking, shuttle or trolley service, and local transit service to serve the beach and downtown areas.

As indicated on the chart, in addition to implementing a variety of parking management measures to accommodate downtown parking demand, all of the cities researched have adopted some form of reduced parking ratios for their downtown mixed-use development. A summary of the reduced parking ratios adopted by nearby beach cities for their downtown and mixed-use areas is provided on the following chart. The approach to parking ratio reductions varies greatly amongst cities, with each parking program tailored to suit the needs and the parking environment in that city.

**Summary of Reduced Parking Rates for Downtown and Mixed-Use Development in Nearby Beach Cities**

| | Standard City Parking Requirements | | | | Modified Specific Plan or District Requirements | | | | |
|---|---|---|---|---|---|---|---|---|---|
| City | Retail | Office | Rest'rnt | Nightclub | Retail | Office | Rest'rnt | Nightclub | Notes |
| Huntington Beach - Downtown Core | 5/ksf | 4/ksf | 5-10/ksf | n/a | 3/ksf | 2/ksf | 3-8/ksf | n/a | Specific Plan requirements represent proposed parking ratios for Downtown Core. |
| Newport Beach - Central Balboa | 4/ksf | 4/ksf | 13.3/ksf | 20/ksf | 2.86/ksf | 4/ksf | 2.86/ksf | 20/ksf | Restaurant rate applies to "small scale" restaurant w/ no live entertainment. No add'l parking required for up to 200 SF of outdoor seating. |
| Laguna Beach - Downtown | 4/ksf | 4/ksf | 10/ksf | 10/ksf | 4/ksf | 4/ksf | 10/ksf | 10/ksf | Code contains provisions to reduce parking requirements through joint and combined parking, shared parking, and for expansions and historical structures. |
| Manhattan Beach - Downtown | 5/ksf | 3.33/ksf | 20/ksf | 28.6/ksf | 0 to xx | 0 to xx | 0 to xx | 0 to xx | Parking reductions for downtown development range from 0 new parking for development < 10 KSF to code required for increment > 10 KSF. |
| Hermosa Beach - Downtown | 4/ksf | 4/ksf | 10/KSF | 12.5/KSF | 3/ksf | 3/ksf | 10/KSF | 12.5/KSF | Code contains provisions to provide add'l relief to existing uses converting to a more parking-intensive use. |
| Santa Monica - Bayside District | 3.33/ksf | 3.33/ksf | 13.3/ksf | 20/ksf | fee only | fee only | fee only | fee only | Development in Bayside District provides no additional parking - pays parking assessment district fee. |
| San Clemente Downtown | 3.33/ksf | 3.33/ksf | 1/4 seats | 1/4 seats | 2.5/ksf | 2.86/ksf | 1/5 seats | 1/4 seats | Reductions apply to Downtown Mixed-Use development |
| Santa Barbara - CBD | 4/ksf | 4/ksf | 4-10/ksf | n/a | 2/ksf | 2/ksf | 2/ksf | n/a | Further reductions of 10 to 100% are allowed in designated "Parking Zones of Benefit" |

An analysis of the benefits of shared parking for the mix of uses in Downtown Huntington Beach, and the adequacy of reduced parking ratios for existing and future conditions is provided in the analysis section of this report.

**Special Events Require Special Parking Provisions**

The downtown parking supply has been assembled to accommodate typical business demand. Likewise, the beach parking adjacent to downtown (approximately 600 spaces in the two pier parking lots) generally accommodates typical beach parking demand, with some spillover into the downtown and residential areas. Significant parking shortages occur on summer holidays and when there are special events at the beach or downtown. These events, such as volleyball and surf competitions, the 4th of July and Labor Day attract thousands of people.

The downtown businesses should not bear the full burden of providing the parking needed to accommodate all of the special event participants and attendees. Parking for special events should be accommodated through parking strategies such as the utilization of remote parking facilities and transportation between the facilities and downtown. For each special event, the permitting process should include the requirement that event organizers provide an Event Parking and Transportation Management Plan to accommodate the parking demands of their event participants and attendees.

**Residential Areas Should Be Protected From Business, Beach and Event Parking Demand**

Residents want to be able to park close to their residences. During certain times throughout the year, residents are disadvantaged when beach-goers, visitors, and event participants park vehicles on the neighborhood streets where no form of payment is required. The City streets outlying from the main downtown area are not metered, have no time restrictions, and do not currently require any form of payment for parking and therefore attract visitor parking by beach-goers who desire convenient and free access to the beach.

In some cases, the City has rectified this issue by initiating a resident parking program on the streets located closer to the downtown area where meters are currently installed. The program allows residents to purchase an annual pass for $15.00 per year that allows the resident to park up to two owner vehicles and two visitor vehicles accurately displaying the required pass to park in the metered parking spaces. Additional visitor passes are available for $10.00 each.

The residential parking permit program currently only incorporates a few streets close to the downtown area and should be expanded to outlying areas. Installation of parking meters would be required. This program would improve resident access to neighborhood parking and reduce the number of beach and event visitors from using the spaces required by the residents. The program can be tailored to each neighborhood or residential area by incorporating time-of-day or seasonal provisions. Additionally, by adding meters and enforcing this system, the City can anticipate additional revenues from this program with a minimal amount required to be financed by residents. A variation on the metered residential permit program would be to implement a parking district where a residential permit is required to park on the street between specified nighttime and morning hours.

**Valet Parking Can Maximize the Use of Space for Parking**

Valet operations increase parking capacity, and therefore, the number of parking spaces in a given area. This is achieved by parking vehicles closer together, and/or double-parked with attendants moving vehicles as needed. Vehicles can be parked in drive aisles, on small, irregular-shaped lots, vacant parcels and on the less-used, top floors of parking structures.

The current downtown valet program is isolated to one specific location, the area south of Duke's Restaurant on the beach. The current valet operator pays a yearly fee and is provided 72 spaces. Additional spaces are made available to the valet operator at a rate of $2.46 per space per day, significantly under current market value. Restaurant customers pay only the valet fee to park their car, with no time limit or proof that they actually patronized the restaurant. The current valet parking contract was negotiated over five years ago and should be renegotiated based upon current parking rates. The current program is significantly under value to the City. The cost to park via the valet parking service should be the same to park as if the customer were parking themselves, with the valet charge on top of that, similar to valet operations at airports and hotels.

**Customer Validation Programs Require Management Oversight and Flexibility**

The City currently offers a merchant parking validation program in the downtown whereby sticker books are purchased by the merchant and offered to customers to pay for up to two hours of free parking in the City-owned parking structures. Additionally, merchants may also use a validation stamp that is also charged to the merchant at the rate of $0.25 each. The validation program results in significantly reduced revenue from the parking garage. The current program affects parking space availability and the program is abused without consequence, except for those attempting to find a parking space. In addition, the City is foregoing a significant amount of revenue with the current rate structure for validations.

Most validation programs offered by municipalities do not offer discounted parking with the use of validations. Validations are typically purchased at face value by merchants and used to entice customers to their restaurant or store. The cost of acquiring customer validation coupons should be increased. Structure operators should continue to accept up to two validation stickers for parking within the parking structure. This represents a significant change to an existing program – which offers a discount of almost 88% of the total price.

The City should restructure the merchant validation program so that it is more consistent with programs offered throughout the United States, monitor the program to reduce abuse, or, alternatively, terminate the program altogether.

**Employee Parking Should be Designated to Non-Prime Locations**

Employee parking is a challenging issue in almost every small to medium-sized downtown. Employees want to park close to where they work and for a low price. Those two objectives present a conflict. Employers (business owners) often try to encourage their employees to park further away so that the prime customer spaces are more available. But the employers have little control or monitoring capability. And often, there are no specific locations designated and protected for employee parking only. Alternative forms of transportation and remote parking lots should be considered more often as an option for downtown employees.

Downtown employers currently have the option to purchase employee parking validation permits for a reduced rate. If this option is to be continued, it should be restructured to achieve better control over the appropriate use of the permits, i.e., the employee validation is honored only in specified, non-prime parking areas, such as the top or lower floors of the parking structures; the permit is used only by downtown employees; and honored only when the employee is reporting for a work shift, for example. The employee validation process and policies should be reviewed and evaluated periodically. More detailed descriptions and recommendations are provided in the Parking Rate Study report.

**Parking In-Lieu Fee Programs Provide Flexibility**

In-lieu parking fees allow businesses and developers to pay fees into a municipal parking or traffic mitigation fund in lieu of providing the required parking on site. By consolidating parking and allowing developers an alternative to providing parking on-site, a fee-in-lieu system can encourage in-fill development and redevelopment. It can also improve the overall efficiency of parking in the downtown by addressing the needs of the area as a whole, rather than each individual site.

The advantages of providing an in-lieu fee option outweigh the disadvantages for Downtown Huntington Beach. In-lieu fees allow businesses to meet parking requirements on sites where providing all the required parking spaces would be difficult or extremely expensive. The use of public spaces is more efficient with an in-lieu program – there are fewer parking areas with low demand because the spaces are shared more often. Residents and visitors can leave their cars parked while making multiple trips on foot. It is anticipated that fewer parking requirement variances will be requested because developers can pay the fee to provide the required parking.

The primary disadvantages of in-lieu fees are related to business concerns. These include the fee (cost) itself, the concern that the fees are not re-invested into the public parking supply – and if they are, that the investment is made in an efficient or timely manner. In-lieu fees could be used to provide shuttle service to remote parking during events, to purchase property for construction of a small public parking lot, to finance the design and construction of public parking facilities, to supplement operations and maintenance budgets for existing parking facilities or for transit, bicycle, and pedestrian improvements that can reduce parking demand. Payment of in-lieu fees should be limited to smaller development parcels where meeting the parking requirement on-site would be infeasible or extremely expensive, because of the size of the site.

The current per space fee is $17,297.86 for downtown and is adjusted annually based on the most recent Consumer Price Index (CPI) for the Anaheim / Los Angeles area. It is a uniform fee that considers the downtown area parking demand as a whole. Most cities (approximately 80%) with in-lieu fees establish a uniform fee. The alternative is a calculation of the fee per space on a case-by case basis, which takes into account the different parking demand from different land uses and specific development projects.

Two different in-lieu fee surveys were reviewed to compare and contrast the City's existing fee. One of the surveys includes cities in California – where the fees range from $3,000 to $36,000 per space. The other survey was prepared by Dr. Donald Shoup, and includes cities in California as well as other cities throughout the US and abroad. The typical in-lieu fee for US reported in Dr. Shoup's survey ranges from $6,000 to $27,000.

The City Council has the authority to adjust that fee amount at any time. It is recommended that the procedure to set the in-lieu fee amount stay the same as is today. The City Council could consider the fee amount at regular intervals (every 1 or 2 years). The frequency of review would depend upon the level of redevelopment, changes in parking demand and changes in the parking supply. The review should calculate the number of purchased spaces, record the current per space cost to construct, and update the parking demand at that time. The parking in-lieu fee ordinance should be revised to also allow the fee to be used to fund shuttle service and other alternative parking and transit improvements.

**SUMMARY OF RECOMMENDATIONS**

The recommendations provided in this parking study have been developed to accommodate the current and future parking needs of the different downtown parking users – beach-goers, residents, residential visitors, customers, employees, delivery and public services and special event participants and attendees. Each of these user groups has different demand patterns and their own specific parking needs and preferences. While the parking demand is dynamic, the parking supply is static, and will remain so until new parking management strategies are in place and additional supply is constructed.

This report provides recommendations to manage the downtown parking supply – both existing and future – and provides recommendations for new parking requirements for new development so that parking will be effectively managed with adoption of the proposed Downtown Specific Plan.

Some of the recommendations in this report are intended to improve the use and management of the existing parking supply and to help accommodate the peak season demand. Other recommendations are focused on the future parking needs that will result from additional development. The recommendations are summarized below and are explained in detail in the analysis and recommendations sections of the report.

**Recommendations to Improve Downtown Parking Today**

The recommendations in this report will improve the downtown parking environment for existing and future conditions, even for non-event days.

1. Require event organizers of special events in the downtown and at the beach to provide an Event Parking and Transportation Management Plan to accommodate the parking demands of their event participants and attendees.
2. Modify the parking in-lieu fee ordinance to also allow the fee to be used to fund shuttle service and other alternative parking and transit improvements. Use the collected in-lieu fee funds as applicable to implement the recommendations of this report.
3. Construct additional parking spaces on vacant parcels – either as temporary, seasonal, or permanent lots.
4. Modify the parking rates charged for different parking facilities, to influence drivers' parking behavior.
5. Designate non-prime parking spaces (spaces that are not on-street and not on the prime access levels of parking structures) as employee-only spaces. Monitor and enforce use of these spaces.
6. Designate specific on-street locations as loading/unloading zones during designated hours only. Restrict loading activity to the early morning hours and then revert the areas back to public parking during the rest of the day.
7. Provide more bicycle parking racks throughout the downtown, in the locations identified in this report, and require all new development to provide off-street parking for employees and customers.
8. Establish a formal and organized valet parking program during peak parking conditions and designate the specific locations identified in this report for the valet-parked vehicles.
9. Arrange for use of remote parking lots during summer holidays and special events, when parking demand exceeds supply, and provide a shuttle service between the remote lots and downtown.
10. Reduce parking intrusion on adjacent neighborhood streets by expanding the residential parking permit program boundaries and enforcing and ticketing violators.
11. Install parking information and way-finding signs at key locations throughout the downtown to guide parkers to locations with available parking supply and to reduce traffic congestion.
12. Execute agreements with private businesses to allow for general public use of the private lots during hours that the business is not in operation, and when the private lot space supply exceeds the business parking demand.

**Recommendations to Accommodate Parking Needs of New Downtown Development**

1. Continue to allow reduced parking ratios for new development and redevelopment projects in the downtown. The impact of the beach and summer events on downtown and area parking should be accommodated by other recommendations and not required of the new development.

2. Continue the parking in-lieu fee program. Place a higher priority on allowing in-lieu fee payment for small parcels where meeting the parking requirement on site would make development infeasible. Modify the parking in-lieu fee ordinance to also allow the fee to be used to fund shuttle service and other alternative parking and transit improvements.

3. Build additional parking in the form of conventional surface parking, or conventional and/or automated parking structures.

4. All new development should be reviewed jointly by the Planning and Economic Development departments to ascertain whether or not in-lieu fees can be used to create additional on-site public parking above and beyond the required parking for the development.

5. Allow tandem parking for residential development and for designated on-site employee parking for new development.

6. Monitor advancements in parking technology and implement and incorporate into the downtown parking system as applicable.

All of these recommendations are discussed in detail in the recommendations section of this report. It is recommended that the City identify a staff member in the Planning Department to be the lead person responsible for managing the parking supply, implementing these parking improvements, and monitoring and adjusting policies based on results. This person would work with parking operator representatives and representatives from the downtown business community (such as the Downtown Business Improvement District) to address current and anticipated parking issues, address parking needs for special event activities, and coordinate implementation of the recommendations.

## DOWNTOWN PARKING DATA COLLECTION AND ANALYSIS

The parking data collection and analysis in this parking study has been conducted to evaluate the existing parking conditions within the City of Huntington Beach Downtown Parking Master Plan Area; to develop parking recommendations to improve the parking environment in the downtown as it exists today; and to address the future parking needs based on the proposed Downtown Specific Plan Update. This parking study will identify the existing parking supply, present the results of parking data collection to measure current parking demand in the Downtown Parking Master Plan area, and present recommendations for parking strategies to address parking needs for existing and future conditions in the downtown.

The existing Downtown Parking Master Plan area consists of nine blocks of downtown development, primarily focused on the parcels located along Main Street and the parallel streets to either side of Main Street, and also including the parcels along the east-west streets that cross Main Street. The study area is shown on **Figure 1**.

Within the current Downtown Parking Master Plan area, a maximum development threshold of 715,000 square feet of development has been adopted. The mix of uses within this development threshold consists of:

- 300,000 square feet of commercial / retail uses,
- 144,000 square feet of restaurant,
- 126,000 square feet of office, and
- 145,000 square feet of miscellaneous uses

Note: These development totals include The Strand development, located on Walnut Avenue and PCH, between 5$^{th}$ and 6$^{th}$ Streets. The Strand was approved and under construction at the time the parking data for this study was collected. The construction has subsequently been completed, and The Strand is currently partially occupied.

The development potential of the current Downtown Parking Master Plan has been reached. The proposed Huntington Beach Downtown Specific Plan Update will result in the potential for new development of approximately 400,000 square feet of additional resident- and visitor-serving uses, as well as new residential and hotel development. The development thresholds identified in the proposed Downtown Specific Plan Update are as follows:

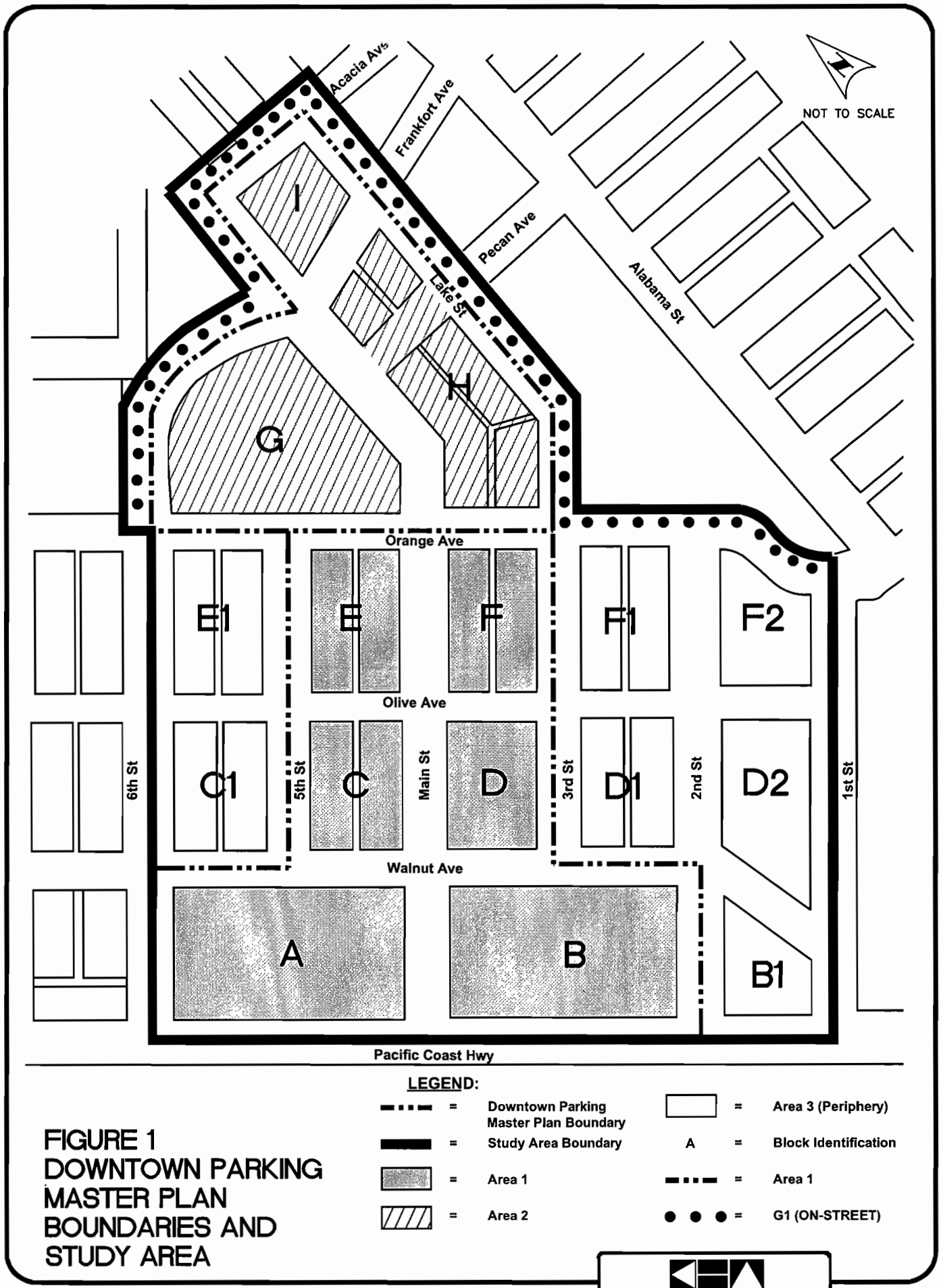



FIGURE 1
DOWNTOWN PARKING
MASTER PLAN
BOUNDARIES AND
STUDY AREA

Kimley–Horn and Associates, Inc.

FILENAME: Sep 08, 2009 - 5:35pm K:\ORA_TPTO\ZSAC\Projects\HB Downtown Parking\Figures\Figures_March 2009.dwg

| Huntington Beach<br>Downtown Specific Plan Update<br>Maximum Development Potential | | |
|---|---|---|
| Land Use | Quantity | Unit |
| Retail | 213,467 | SF |
| Restaurant | 92,332 | SF |
| Office | 92,784 | SF |
| Cultural Facilities | 30,000 | SF |
| Residential | 648 | DU |
| Hotel | 235 | Rooms |

SF = Square Feet
DU = Dwelling Units

The current Downtown Parking Master Plan was adopted by the City Council in 2000. The majority of the parking in the downtown area is provided in the form of public parking, available to the visitors and employees of the downtown on a shared use basis. The parking plan for the downtown area takes into account mixed-use synergies between complementary land uses in the downtown area, particularly at night and on weekends, and applies shared parking concepts to adjust for those synergies.

The City's Municipal Code allows for a reduction in the total number of required spaces for a combination of uses based on shared parking synergies when it can be demonstrated that the various uses have divergent needs in terms of daytime versus nighttime hours or weekday versus weekend hours. Reduced parking ratios adopted for some uses in the Downtown Parking Master Plan area take these shared parking synergies between land uses into account. Parking ratios for the Downtown Parking Master Plan area, compared to standard city parking requirements for individual uses are shown on the following chart:

| Huntington Beach<br>Downtown Parking Master Plan<br>Comparison of Parking Ratios | | | |
|---|---|---|---|
| Land Use | Downtown Parking Ratios | Standard City Parking Ratios | Unit |
| Retail | 3.00 | 5.00 | KSF |
| Restaurant – 12 or more seats | 10.00 | 10.00 | KSF |
| Restaurant – less than 12 seats | 10.00 | 5.00 | KSF |
| Office | 2.00 | 4.00 | KSF |
| Theater | 0.30 | 0.33 | Seat |

KSF = Thousand Square Feet

## PARKING INVENTORY

In the current Downtown Parking Master Plan document, the study area was divided into two areas within the Master Plan boundaries, and a third, periphery area outside the Master Plan boundaries. The study area is further divided into Parking Area Zones (PAZ's) within each area. For data collection purposes, and for consistency with the existing DPMP, all data collection activity and analysis for this study was conducted using the same Area and PAZ boundaries.

An inventory of all of the parking available for public use was conducted for the downtown study area. The inventory includes all parking spaces in the study area as follows:

- All publicly-owned parking facilities including:
  - on-street spaces,
  - city-owned off-street parking facilities;
- Privately-owned off-street parking facilities that are available for use by the general public;
- Privately-owned off-street parking lots that are available for use by the customers of that business, and not generally available to the public on a shared use basis. These include off-street parking lots within the downtown area for uses such as Jack's Bikes, The Electric Chair, The Surfing Museum, the Art Center, etc.

The inventory also includes the on-street spaces in the periphery area. The inventory did not include parking spaces reserved for residential use. The inventory identifies the location, type and number of spaces in each of the off-street facilities that were inventoried, and the location, type, and applicable time and use restrictions for each of the on-street parking spaces located in the study area.

The overall results of the existing parking inventory are summarized on **Table 1**.

As shown on Table 1, at the time of the parking data collection for this study, there were a total of 2,272 parking spaces located within the entire study area (Areas 1, 2, and 3), and of those, 1,875 are located within the DPMP area itself. Of the overall total, 760 spaces are on-street spaces and the remaining 1,512 spaces are located in off-street facilities. Details of these spaces are provided in the paragraphs below.

*Note:* Since the completion of the parking data collection, The Strand development has been completed, and the parking structure is now open to the public. The Strand provides 424 public parking spaces, bringing the current downtown parking supply to 2,696 parking spaces. The detailed analysis in this report is based on the parking inventory that was in place at the time of the data collection. As appropriate, throughout this report, references will be made to The Strand parking supply, for informational purposes.

**TABLE 1**
**HUNTINGTON BEACH DOWNTOWN PARKING**
**INVENTORY OF DOWNTOWN PARKING SUPPLY**

| Area | PAZ | Off-Street | | | On-Street | Total |
|---|---|---|---|---|---|---|
| | | Public | Private | Total | | |
| 1 | A | 0 | 17 | 17 | 33 | 50 |
| | B | 283 | 0 | 283 | 32 | 315 |
| | C | 0 | 16 | 16 | 41 | 57 |
| | D | 826 | 0 | 826 | 35 | 861 |
| | E | 171 | 0 | 171 | 37 | 208 |
| | F | 0 | 59 | 59 | 42 | 101 |
| ***Total Area 1*** | | ***1,280*** | ***92*** | ***1,372*** | ***220*** | ***1,592*** |
| 2 | G | 0 | 34 | 34 | 59 | 93 |
| | H | 0 | 69 | 69 | 78 | 147 |
| | I | 0 | 21 | 21 | 22 | 43 |
| ***Total Area 2*** | | ***0*** | ***124*** | ***124*** | ***159*** | ***283*** |
| ***Total Areas 1 and 2*** | | ***1,280*** | ***216*** | ***1,496*** | ***379*** | ***1,875*** |
| 3 | B1 | 0 | 16 | 16 | 18 | 34 |
| | C1 | 0 | 0 | 0 | 68 | 68 |
| | D1 | 0 | 0 | 0 | 39 | 39 |
| | D2 | 0 | 0 | 0 | 40 | 40 |
| | E1 | 0 | 0 | 0 | 74 | 74 |
| | F1 | 0 | 0 | 0 | 43 | 43 |
| | F2 | 0 | 0 | 0 | 25 | 25 |
| | G1 | 0 | 0 | 0 | 74 | 74 |
| ***Total Area 3*** | | ***0*** | ***16*** | ***16*** | ***381*** | ***397*** |
| ***Total Areas 1, 2, and 3*** | | ***1,280*** | ***232*** | ***1,512*** | ***760*** | ***2,272*** |

**THE STRAND PARKING**
**(COMPLETED AFTER THE PARKING DATA COLLECTION)**

| Area | PAZ | Off-Street | | | On-Street | Total |
|---|---|---|---|---|---|---|
| | | Public | Private | Total | | |
| 1 | A | 424 | 0 | 424 | 7 | 431 |

**On-Street Parking Spaces**

The inventory of the on-street parking spaces included the number of spaces by location; the type of space, such as pay (metered) or free; and identification of any restrictions, including time restrictions or user restrictions, such as spaces reserved for police use, or for the handicapped. The location and type of on-street parking spaces are shown on **Figure 2**. A summary of each type of on-street parking spaces is provided on **Table 2** for each block.

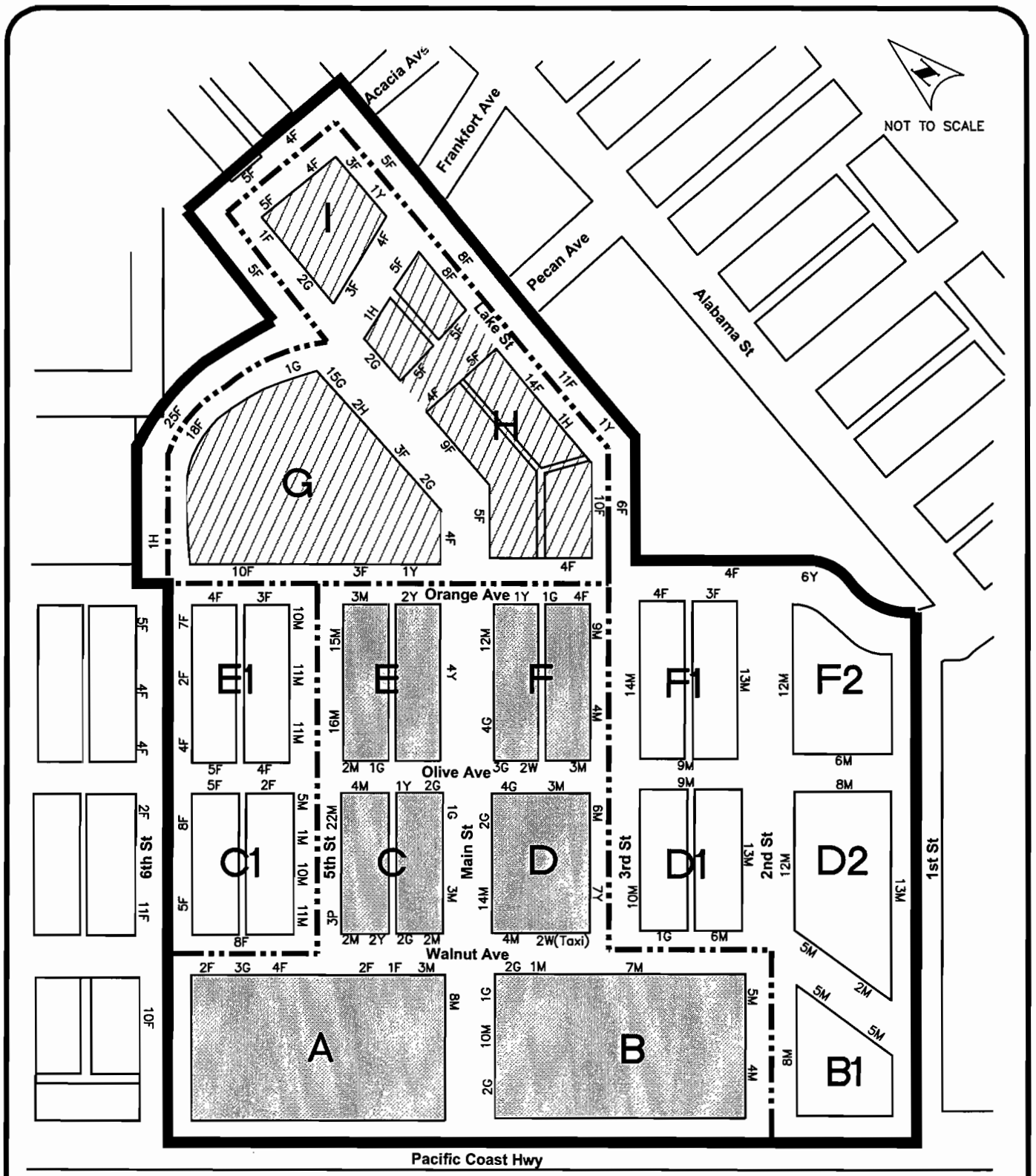
As shown on this table, of the total 760 on-street spaces located in the study area, 309 are unmetered and are available without cost or time restrictions. Of the remaining spaces, 388 are metered spaces, 51 are unmetered but with a 24-minute time limit and 5 are reserved for the handicapped. There are four taxi spaces and 3 spaces reserved for police in the downtown. The parking capacity of on-street yellow loading zone areas has been estimated, but was not included in the parking utilization analysis. The parking rate at the meters is $1.50 per hour from 6 AM to midnight, seven days a week, with a 2-hour time limit.

**Off-Street Parking Facilities**

The off-street parking inventory includes parking facilities available for public use, including both visitors and employees in the study area. Off-street parking spaces that are reserved solely for the use of residents and are unavailable to the general public are not included in this inventory, nor are they addressed in this study.

A summary of the off-street parking facilities is provided on **Table 3**, and the location of the off-street parking areas is illustrated on **Figure 3.** As Figure 3 indicates, of all of the off-street parking areas in the downtown area, one facility is a city-owned facility – the Promenade Parking Structure, located in the block bounded by Main Street, Olive Avenue, Walnut Avenue, and 3rd Street. The Promenade structure provides 826 public parking spaces. Two other parking structures in the downtown at the time of the data collection were the underground parking in Plaza Almeria (171 spaces), and the Pierside Pavilion underground parking (283 spaces). These are privately-owned, pay facilities, which are available to the general public. Since the completion of the data collection, The Strand parking structure, with 424 spaces, has opened. A description of all downtown parking structures currently in operation is provided below.

All downtown parking structures have ticket dispensers on the inbound lanes, and parking booths with attendants to collect fees from exiting drivers. Each of the parking structures operates with different pricing and policies. Current parking rates for all downtown parking structures are shown on **Table 4**, and are described in the following paragraphs.




# FIGURE 2
# INVENTORY OF ON-STREET PARKING SPACES

**TABLE 2**
**HUNTINGTON BEACH DOWNTOWN PARKING**
**INVENTORY OF ON-STREET PARKING SPACES**

| BLOCK (PAZ) | Metered | 24-Minute | No Restriction | Handicap | Loading Zone | Passenger Loading | Police Only | Total Spaces |
|---|---|---|---|---|---|---|---|---|
| A | 11 | 3 | 19 | 0 | 0 | 0 | 0 | 33 |
| B | 27 | 5 | 0 | 0 | 0 | 0 | 0 | 32 |
| C | 33 | 5 | 0 | 0 | 3 | 0 | 3 | 44 |
| D | 27 | 6 | 0 | 0 | 7 | 2 | 0 | 42 |
| E | 36 | 1 | 0 | 0 | 6 | 0 | 0 | 43 |
| F | 28 | 8 | 4 | 0 | 1 | 2 | 0 | 43 |
| **AREA 1 TOTAL** | **162** | **28** | **23** | **0** | **17** | **4** | **3** | **237** |
| G | 7 | 18 | 32 | 2 | 1 | 0 | 0 | 60 |
| H | 0 | 2 | 74 | 2 | 0 | 0 | 0 | 78 |
| I | 0 | 2 | 20 | 0 | 1 | 0 | 0 | 23 |
| **AREA 2 TOTAL** | **7** | **22** | **126** | **4** | **2** | **0** | **0** | **161** |
| **AREA 1 & 2 SUBTOTAL** | **169** | **50** | **149** | **4** | **19** | **4** | **3** | **398** |
| B1 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| C1 | 27 | 0 | 41 | 0 | 0 | 0 | 0 | 68 |
| D1 | 38 | 1 | 0 | 0 | 0 | 0 | 0 | 39 |
| D2 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| E1 | 42 | 0 | 32 | 0 | 0 | 0 | 0 | 74 |
| F1 | 36 | 0 | 7 | 0 | 0 | 0 | 0 | 43 |
| F2 | 18 | 0 | 7 | 0 | 0 | 0 | 0 | 25 |
| G1 * | 0 | 0 | 73 | 1 | 7 | 0 | 0 | 81 |
| **AREA 3** | **219** | **1** | **160** | **1** | **7** | **0** | **0** | **388** |
| **TOTAL AREA** | **388** | **51** | **309** | **5** | **26** | **4** | **3** | **786** |

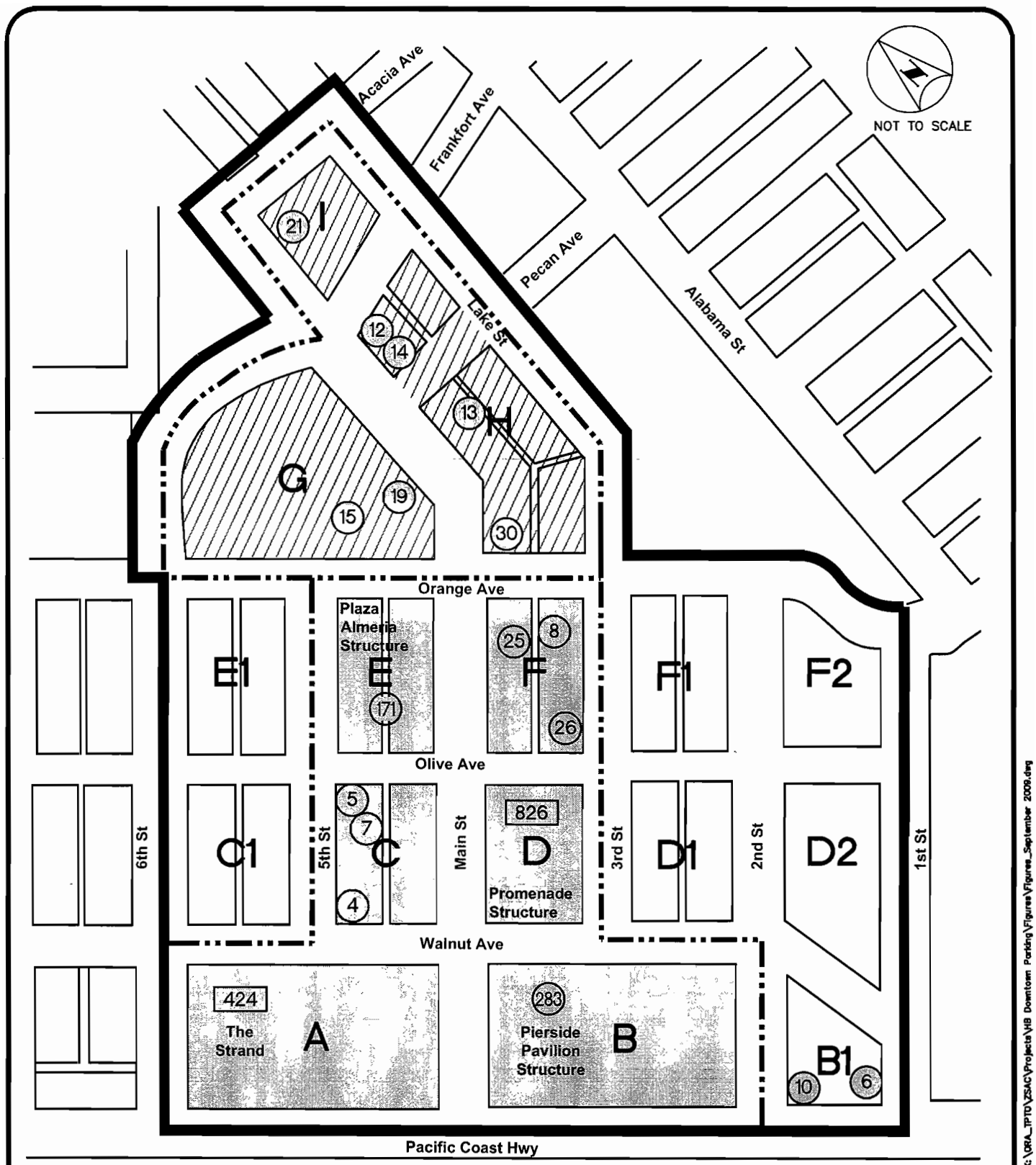
* G1 includes the following street segments:
6th Street between Orange Avenue and Main Street - west side
Main Street between 6th Street and Acacia Avenue - west side
Acacia Avenue between Main Street and Lake Street - north side
Lake Street between Acacia Avenue and Orange Avenue - east side
Orange Avenue between 3rd Street and 1st Street - north side

Note: Total Spaces column includes estimated parking capacity of yellow loading zones. These spaces were not in

**TABLE 3**
**HUNTINGTON BEACH DOWNTOWN PARKING**
**INVENTORY OF OFF-STREET PARKING**

| Block | Area | Street | Location | Pub-Priv | Avail to Gen Pub? [1] | Off-street Parking Inventory | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Public | Private | Total |
| A | 1 | 6th | Antiques | Private | | | 10 | 10 |
| A | 1 | Walnut | Businesses | Private | | | 7 | 7 |
| B | 1 | Walnut | Pierside Structure | Private | Yes | 283 | | 283 |
| C | 1 | 5th | Surf Museum | Private | | | 5 | 5 |
| C | 1 | Alley | s/o Olive | Private | | | 7 | 7 |
| C | 1 | 5th | Police | Private | | | 4 | 4 |
| D | 1 | Olive | Promenade Structure | Public | Yes | 826 | | 826 |
| E | 1 | Main | Plaza Almeria | Private | Yes | 171 | | 171 |
| F | 1 | Alley | s/o Pecan | Private | | | 25 | 25 |
| F | 1 | Alley | s/o Pecan | Private | | | 8 | 8 |
| F | 1 | 3rd | Businesses | Private | | | 26 | 26 |
| G | 2 | Main | Jax | Private | | | 19 | 19 |
| G | 2 | Main | Behind Jax | Private | | | 15 | 15 |
| H | 2 | Main | Market | Private | | | 14 | 14 |
| H | 2 | Main | Shops | Private | | | 12 | 12 |
| H | 2 | Alley | Tspot | Private | | | 13 | 13 |
| H | 2 | Main | Electric Chair | Private | | | 30 | 30 |
| I | 2 | Main | Art Center | Private | | | 21 | 21 |
| B1 | 3 | 2nd | Pacific City Center | Private | | | 10 | 10 |
| B1 | 3 | 1st | Dairy Queen | Private | | | 6 | 6 |
| | | | | | **TOTAL** | **1,280** | **232** | **1,512** |

[1] A "Yes" in this column indicates that this parking is available to any Downtown visitor or employee, and is not restricted only to users allowed by the property / business owner.




# FIGURE 3
# INVENTORY OF OFF-STREET PARKING SPACES

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**TABLE 4**
**HUNTINGTON BEACH DOWNTOWN PARKING**
**STANDARD PARKING RATES IN PUBLIC PARKING STRUCTURES**

| Parking Structure | Number of Spaces | Parking Rate | per each | Hourly Rate | Maximum Charge | Grace Period | Validations |
|---|---|---|---|---|---|---|---|
| Pierside Pavilion | 283 | $1.25 | 20 min. | $3.75 | $ 11.25 | 10 mins. | 60 to 120 mins. |
| Promenade | 826 | $1.00 | 30 min. | $2.00 | $ 12.00 | 15 mins. | 60 mins. |
| Plaza Almeria | 171 | $1.00 | 20 min. | $3.00 | $ 15.00 | 20 mins. | 60 mins. |
| The Strand | 424 | $1.50 | 30 min. | $3.00 | $12.00 | None | None |
| | | | (1st 2 hours) | | | | |
| | | $2.00 | 20 min. | $6.00 | | | |
| | | | (after 2 hrs.) | | | | |

- The Promenade parking structure is operated by the City. During regular operations (non-event and holidays), the cost is $2.00 per hour ($1.00 per 30 minutes) with a $12.00 maximum daily cost. A 15-minute grace period is allowed. Validations from most downtown merchants are accepted, however, a number of specific exceptions for businesses from which validations are not accepted are posted at the structure entrances. On holidays and event days, the cost is $3.00 per hour, with a maximum daily cost of $18.00.

- The Plaza Almeria parking structure is privately operated. The cost is $3.00 per hour ($1.00 per 20 minutes) with a $15.00 maximum daily cost. A 20-minute grace period is allowed. Validations from most downtown merchants are accepted.

- The Pierside Pavilion parking structure is privately operated. The cost is $3.75 per hour ($1.25 per 20 minutes) with a daily maximum of $11.25. Validations are accepted from a specific list of businesses posted at the entrance of the structure. On event days and holidays, a flat rate of $20.00 to $25.00 is charged to people entering the structure.

- The Strand is a public parking structure operated by a private firm. The cost to park during non-event conditions is $3.00 per hour ($1.50 per 30 minutes) for the first two hours, and $6.00 per hour ($2.00 per 20 minutes) after the initial two hours, with a $12.00 maximum daily cost. A flat rate of $20.00 is charged for holidays and special events, with a reduced flat rate of $6.00 after 8:00 PM.

All parking rates throughout the downtown are currently under review, and may be modified to implement recommended pricing strategies.

In addition to the off-street parking available in the downtown parking structures, there are 232 off-street parking spaces located throughout the downtown in a number of privately-owned parking lots that are available at no cost for use by the employees and customers of that business. These spaces are generally not available to the general public on a shared-use basis.

**Beach Parking**

For analysis purposes, the data collection effort also included the two beach parking lots located on either side of the pier. Although these two lots are not located within the Downtown Parking Master Plan area, they were included in the data collection in order to gain a better understanding of how beach parking activity affects the downtown parking supply.

The beach parking lot on the north side of the pier has 331 parking spaces, and the lot on the south side of the pier has 287 parking spaces, for a total of 618 parking spaces in these two beach parking lots. Both lots are pay lots, operated by the City, and primarily serve beach-going visitors. During the fall and winter months, visitors pay using a self-serve Park-and-Pay ticket system at pay stations located throughout the parking areas. Parking fees are $1.50 an hour. During the summer months, attendants

collect a flat $15.00 at the entrance to the parking lot. Valet parking for the two restaurants located adjacent to the pier is provided during afternoon and evening hours in a portion of the lot south of the pier.

## PARKING UTILIZATION STUDIES

Parking demand data collection was conducted throughout the downtown area in August, 2007. The parking surveys were conducted on a typical summer weekday (Thursday, August 23) and a typical summer weekend day (Saturday, August 18) from 10:00 in the morning until 10:00 PM on Thursday and 10:00 AM to midnight on Saturday. The surveys were conducted by documenting the number of parked cars in each parking area on an hourly basis. The parking counts included all parked cars in the on-street parking spaces, public parking lots, and parking structures; and also included any illegally parked cars within the study area. The results of the parking data collection are summarized below.

### Summer Weekday Parking Demand

The Thursday parking utilization surveys were conducted on an hour-by-hour basis, to document the number of occupied parking spaces in each off-street facility and each on-street space within the study area. The weekday survey was conducted on Thursday, August 23, between 10:00 AM and 10:00 PM. As mentioned earlier, any illegally parked cars (cars parked outside striped parking spaces, double parked, parked across driveways, parked in no-parking areas or in loading zones, etc.) were included in the parking demand data.

The results of the weekday parking utilization surveys are summarized on **Table 5.** The results are presented for the Downtown Parking Master Plan area itself, for the Beach parking areas, and for the combined total of both areas. The results are presented in terms of both the number of parked vehicles observed, as well as the percentage occupancy of the parking inventory. For the percentage occupancy analysis, the parking inventory was adjusted each hour to account for unoccupied parking spaces in the privately owned business lots. Since these unoccupied spaces in the private business lots are not available to the general public on a shared-use basis, they are not counted as available parking for this analysis, as discussed below.

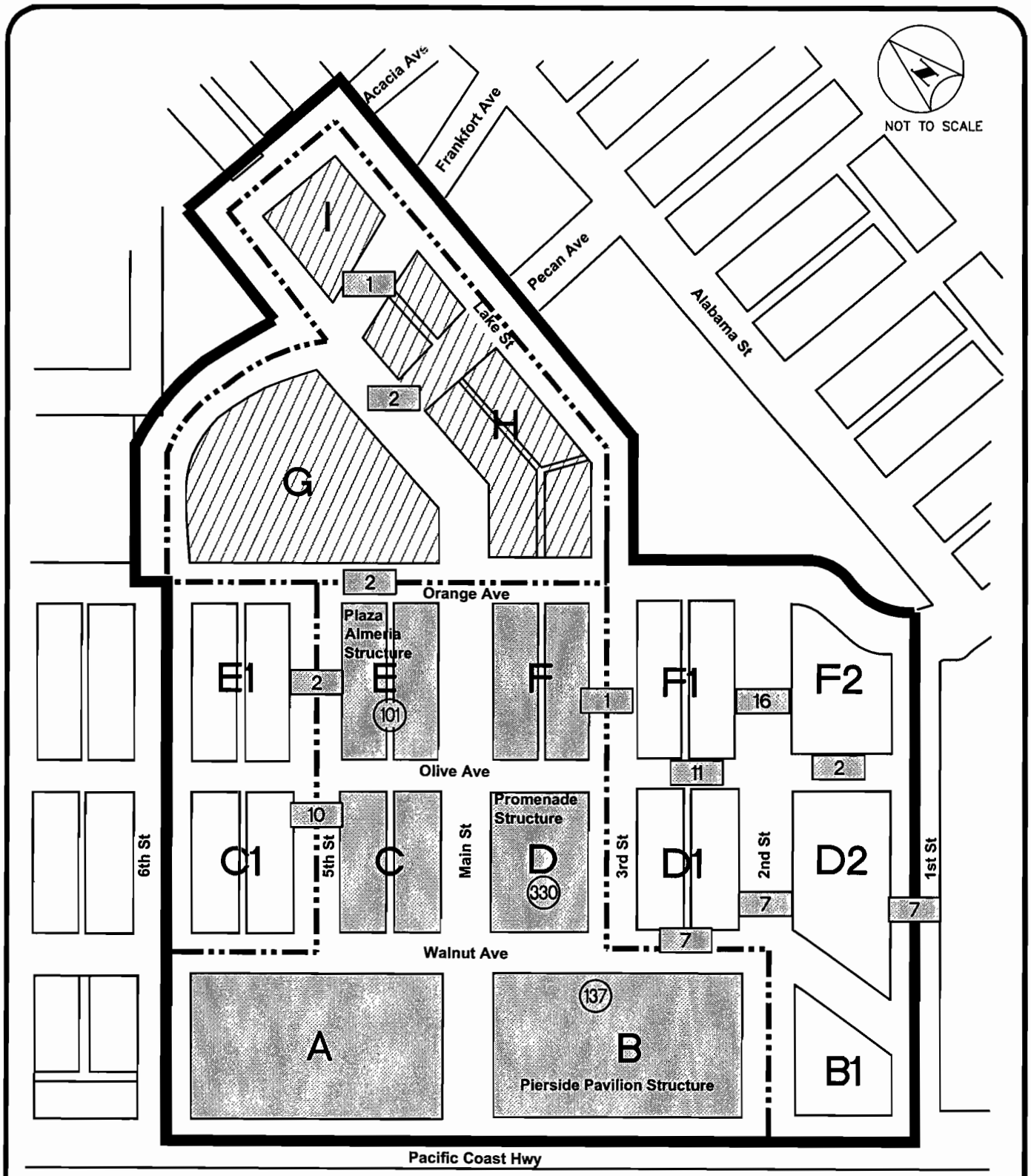
The overall peak parking demand for the downtown study area on a typical summer weekday occurred between 7:00 and 8:00 PM, when a total of 1,356 parking spaces were occupied, which represents 64% utilization of the available downtown parking spaces. At this time, 83% of the on-street parking spaces throughout the downtown were occupied, and 48% of the off-street parking was occupied.

The locations of where parking spaces were still available during the 7:00 to 8:00 PM peak parking condition are shown on **Figure 4.** This figure shows that virtually all of the on-street parking spaces on Main Street were occupied, while some street parking was still available on 5$^{th}$ Street and 2$^{nd}$ Street, and on Olive and Walnut Avenues east of Main Street. The Plaza Almeria and the Pierside parking structures were roughly 50% full, while the Promenade parking structure was 63% full.

**TABLE 5**
**HUNTINGTON BEACH DOWNTOWN**
**SUMMARY OF PARKING UTILIZATION - SUMMER WEEKDAY**

| Location | Parking Inventory | 10A - 11A | 11A - 12Nn | 12 Nn - 1P | 1P - 2P | 2P - 3P | 3P - 4P | 4P - 5P | 5P - 6P | 6P - 7P | 7P - 8P | 8P - 9P | 9P - 10P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DOWNTOWN PARKING STUDY AREA** | | | | | | | | | | | | | |
| On-street Parking Demand | 760 | 455 | 500 | 576 | 574 | 583 | 532 | 543 | 546 | 590 | 624 | 629 | 599 |
| On-street Utilization | | 60% | 66% | 76% | 76% | 77% | 70% | 71% | 72% | 78% | **82%** | **83%** | 79% |
| Off-street Parking Demand | 1,512 | 471 | 553 | 696 | 742 | 726 | 715 | 721 | 758 | 738 | 732 | 709 | 639 |
| Off-street Utilization | | 31% | 37% | 46% | 49% | 48% | 47% | 48% | **50%** | 49% | 48% | 47% | 42% |
| Total Downtown | 2,272 | 926 | 1,053 | 1,272 | 1,316 | 1,309 | 1,247 | 1,264 | 1,304 | 1,328 | 1,356 | 1,338 | 1,238 |
| Total Downtown Utilization | | 41% | 46% | 56% | 58% | 58% | 55% | 56% | 57% | 58% | **60%** | 59% | 54% |
| Private Business Lots | 232 | 71 | 89 | 103 | 124 | 116 | 125 | 128 | 129 | 106 | 91 | 66 | 44 |
| Unoccupied Private Spaces | | 161 | 143 | 129 | 108 | 116 | 107 | 104 | 103 | 126 | 141 | 166 | 188 |
| Adjusted Downtown Inventory [1] | | 2,111 | 2,129 | 2,143 | 2,164 | 2,156 | 2,165 | 2,168 | 2,169 | 2,146 | 2,131 | 2,106 | 2,084 |
| Adjusted Downtown Utilization | | 44% | 49% | 59% | 61% | 61% | 58% | 58% | 60% | 62% | **64%** | **64%** | 59% |
| **BEACH PARKING** | | | | | | | | | | | | | |
| Beach Lots Parking Demand | 618 | 324 | 365 | 438 | 430 | 421 | 409 | 413 | 365 | 316 | 280 | 298 | 198 |
| Beach Lots Utilization | | 52% | 59% | **71%** | 70% | 68% | 66% | 67% | 59% | 51% | 45% | 48% | 32% |
| **COMBINED DOWNTOWN AND BEACH PARKING** | | | | | | | | | | | | | |
| Total Adj DT + Beach Inventory | | 2,729 | 2,747 | 2,761 | 2,782 | 2,774 | 2,783 | 2,786 | 2,787 | 2,764 | 2,749 | 2,724 | 2,702 |
| Total DT + Beach Demand | | 1,250 | 1,418 | 1,710 | 1,746 | 1,730 | 1,656 | 1,677 | 1,669 | 1,644 | 1,636 | 1,636 | 1,436 |
| Total DT + Beach Utilization | | 46% | 52% | 62% | **63%** | **62%** | 60% | 60% | 60% | 59% | 60% | 60% | 53% |

[1] The Downtown parking inventory is adjusted for this analysis to account for the fact that the un-occupied spots on the private business lots are not available to the general public on a shared parking basis, for a worse-case analysis.




# FIGURE 4
# LOCATION OF AVAILABLE PARKING SPACES - SUMMER WEEKDAY

Kimley-Horn and Associates, Inc.

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As the footnote at the bottom of this table indicates, this analysis of the parking data includes an adjustment for unoccupied spaces in the off-street private business lots, to account for the fact that the unoccupied spaces in these private lots would not be available to the general public on a shared-use basis, and therefore should not be counted as part of the available parking inventory. For example, between 8:00 and 9:00 PM, when the parking demand was at its peak in the downtown, there were 166 empty spaces (out of a total of 232 spaces) in the private business lots. These spaces were deducted from the total inventory before calculating the parking occupancy rates.

The weekday parking activity trends in the two beach parking lots differed from the downtown parking areas. The parking demand in the two beach parking lots peaked at 71% occupancy between noon and 1:00 PM. At this time, the downtown parking supply was roughly 60% occupied. When the downtown parking was operating at its peak at 7:00 to 8:00 PM, the beach parking utilization had dropped to 45%.

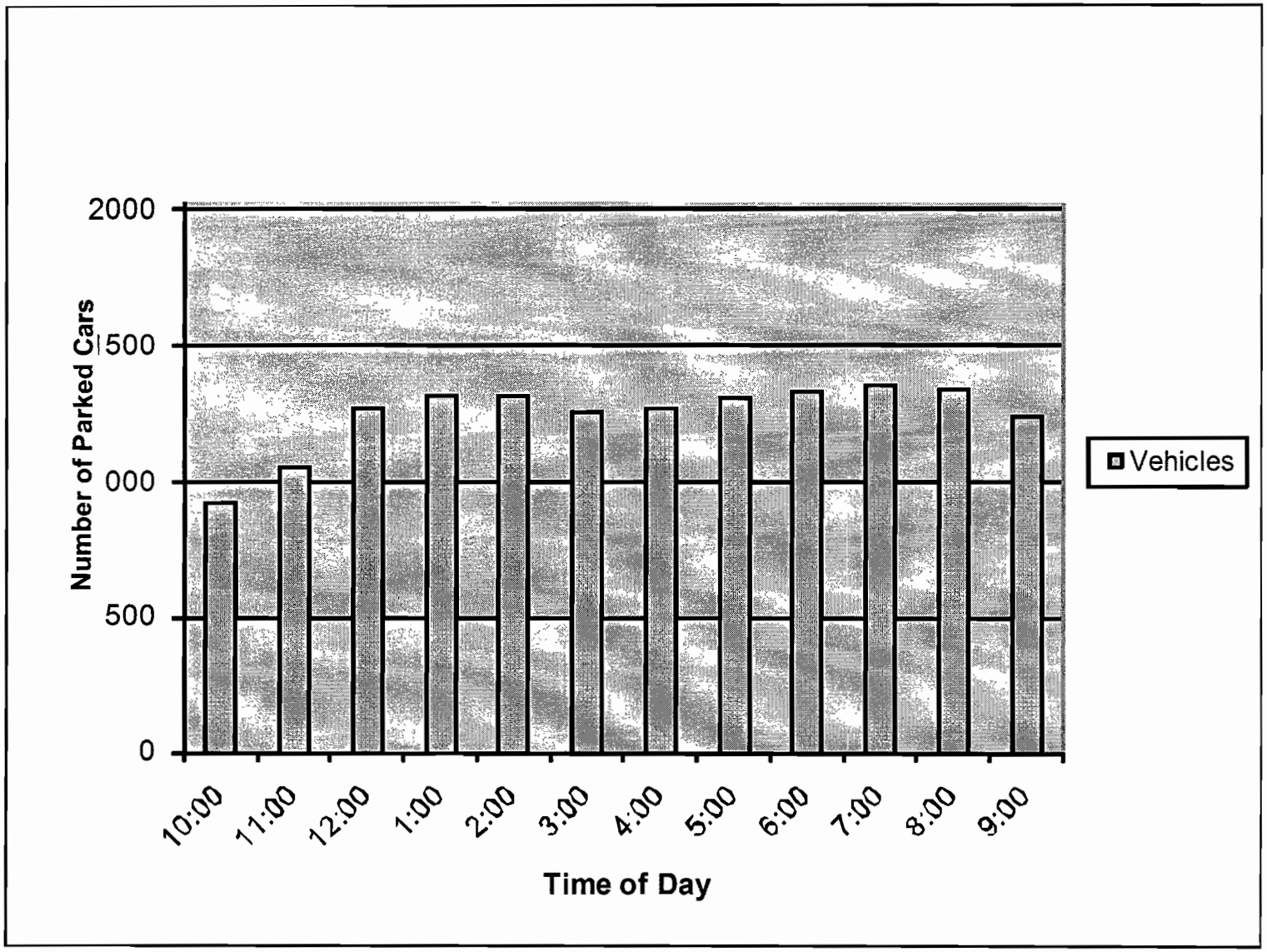
When the beach parking demand is combined with the downtown parking demand, the overall parking peak shifts to between 1:00 and 2:00 PM when 430 cars were parked in the beach lots, and the total number of cars parked in the combined downtown and beach parking was 1,746 cars. For most of the hours of the day, the utilization of the combined beach and downtown parking supply was fairly consistent, at around 60% utilization.

The results of the parking demand analysis for the downtown area (not including beach parking) are also illustrated in graphic format in **Figure 5**. It can be seen that on this weekday, the parking demand in the downtown was relatively low in the morning (926 occupied parking spaces between 10:00 and 11:00 AM), increasing steadily until 2:00 to 3:00 PM when the midday peak parking demand occurred (1,309 occupied spaces). Demand decreased slightly through the afternoon hours, until the evening, when the demand increased to the nighttime and daily peak at 7:00 to 8:00 PM with 1,356 occupied spaces.

**Summer Weekend Parking Demand**

The Saturday parking data collection was conducted on August 18, between 10:00 AM and midnight. This day represented a typical summer weekend day, in that school was not yet back in session and the weather was hot and sunny, but it was not a holiday weekend and there were no special events being held in the downtown area or at the beach.

The results of the Saturday parking surveys are presented on **Table 6**. The results indicate that the overall peak parking demand for the downtown study area occurred between 2:00 and 3:00 PM, when a total of 1,991 spaces were occupied, which represents 92% utilization of the downtown area parking spaces. The parking occupancy for the on-street parking spaces reached 99% (750 of 756 spaces occupied) during this time period, which means that, for all intents and purposes, the on-street parking was fully utilized.




NOT TO SCALE

FIGURE 5
DOWNTOWN PARKING DEMAND - SUMMER WEEKDAY



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Kimley-Horn and Associates, Inc.

## TABLE 6
## HUNTINGTON BEACH DOWNTOWN
## SUMMARY OF PARKING UTILIZATION - SUMMER WEEKEND

| Location | Parking Inventory | 10A - 11A | 11A - 12Nn | 12 Nn - 1P | 1P - 2P | 2P - 3P | 3P - 4P | 4P - 5P | 5P - 6P | 6P - 7P | 7P - 8P | 8P - 9P | 9P - 10P | 10P - 11P | 11P - 12M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DOWNTOWN PARKING STUDY AREA** | | | | | | | | | | | | | | | |
| On-street Parking Demand | 760 | 615 | 618 | 653 | 734 | 750 | 729 | 746 | 736 | 725 | 750 | 714 | 712 | 673 | 653 |
| On-street Utilization | | 81% | 81% | 86% | 97% | **99%** | 96% | 98% | 97% | 95% | 99% | 94% | 94% | 89% | 86% |
| Off-street Parking Demand | 1,512 | 651 | 758 | 838 | 942 | 1,241 | 1,198 | 1,068 | 987 | 1,004 | 957 | 1,040 | 1,024 | 874 | 791 |
| Off-street Utilization | | 43% | 50% | 55% | 62% | **82%** | 79% | 71% | 65% | 66% | 63% | 69% | 68% | 58% | 52% |
| Total Downtown | 2,272 | 1,266 | 1,376 | 1,491 | 1,676 | 1,991 | 1,927 | 1,814 | 1,723 | 1,729 | 1,707 | 1,754 | 1,736 | 1,547 | 1,444 |
| Total Downtown Utilization | | 56% | 61% | 66% | 74% | **88%** | 85% | 80% | 76% | 76% | 75% | 77% | 76% | 68% | 64% |
| Private Business Lots | 232 | 90 | 120 | 122 | 118 | 129 | 113 | 109 | 110 | 100 | 70 | 79 | 72 | 57 | 53 |
| Unoccupied Private Spaces | | 142 | 112 | 110 | 114 | 103 | 119 | 123 | 122 | 132 | 162 | 153 | 160 | 175 | 179 |
| Adjusted Downtown Inventory [1] | | 2,130 | 2,160 | 2,162 | 2,158 | 2,169 | 2,153 | 2,149 | 2,150 | 2,140 | 2,110 | 2,119 | 2,112 | 2,097 | 2,093 |
| Adjusted Downtown Utilization | | 59% | 64% | 69% | 78% | **92%** | 90% | 84% | 80% | 81% | 81% | 83% | 82% | 74% | 69% |
| **BEACH PARKING** | | | | | | | | | | | | | | | |
| Beach Lots Parking Demand | 618 | 432 | 487 | 549 | 574 | 568 | 570 | 544 | 553 | 544 | 530 | 478 | 441 | 289 | 169 |
| Beach Lots Utilization | | 70% | 79% | 89% | **93%** | 92% | 92% | 88% | 89% | 88% | 86% | 77% | 71% | 47% | 27% |
| **COMBINED DOWNTOWN AND BEACH PARKING** | | | | | | | | | | | | | | | |
| Total Adj DT + Beach Inventory | | 2,748 | 2,778 | 2,780 | 2,776 | 2,787 | 2,771 | 2,767 | 2,768 | 2,758 | 2,728 | 2,737 | 2,730 | 2,715 | 2,711 |
| Total DT + Beach Demand | | 1,698 | 1,863 | 2,040 | 2,250 | 2,559 | 2,497 | 2,358 | 2,276 | 2,273 | 2,237 | 2,232 | 2,177 | 1,836 | 1,613 |
| Total DT + Beach Utilization | | 62% | 67% | 73% | 81% | **92%** | 90% | 85% | 82% | 82% | 82% | 82% | 80% | 68% | 59% |

[1] The Downtown parking inventory is adjusted for this analysis to account for the fact that the un-occupied spots on the private business lots are not available to the general public on a shared parking basis, and are therefore not included in the parking utilization calculation.

The locations of where parking spaces were still available during the 2:00 to 3:00 PM peak parking condition are shown on **Figure 6**. This figure shows that virtually all of the on-street parking spaces throughout the downtown were occupied, and the Promenade parking structure was completely full. The Plaza Almeria and the Pierside parking structures were the only places where spaces were still available at this time.

The weekend parking activity in the beach parking lots was more similar to the downtown parking areas than the weekday activity. The beach parking demand in the two beach parking lots grew quickly throughout the morning, and peaked at 93% occupancy between 1:00 and 2:00 PM.

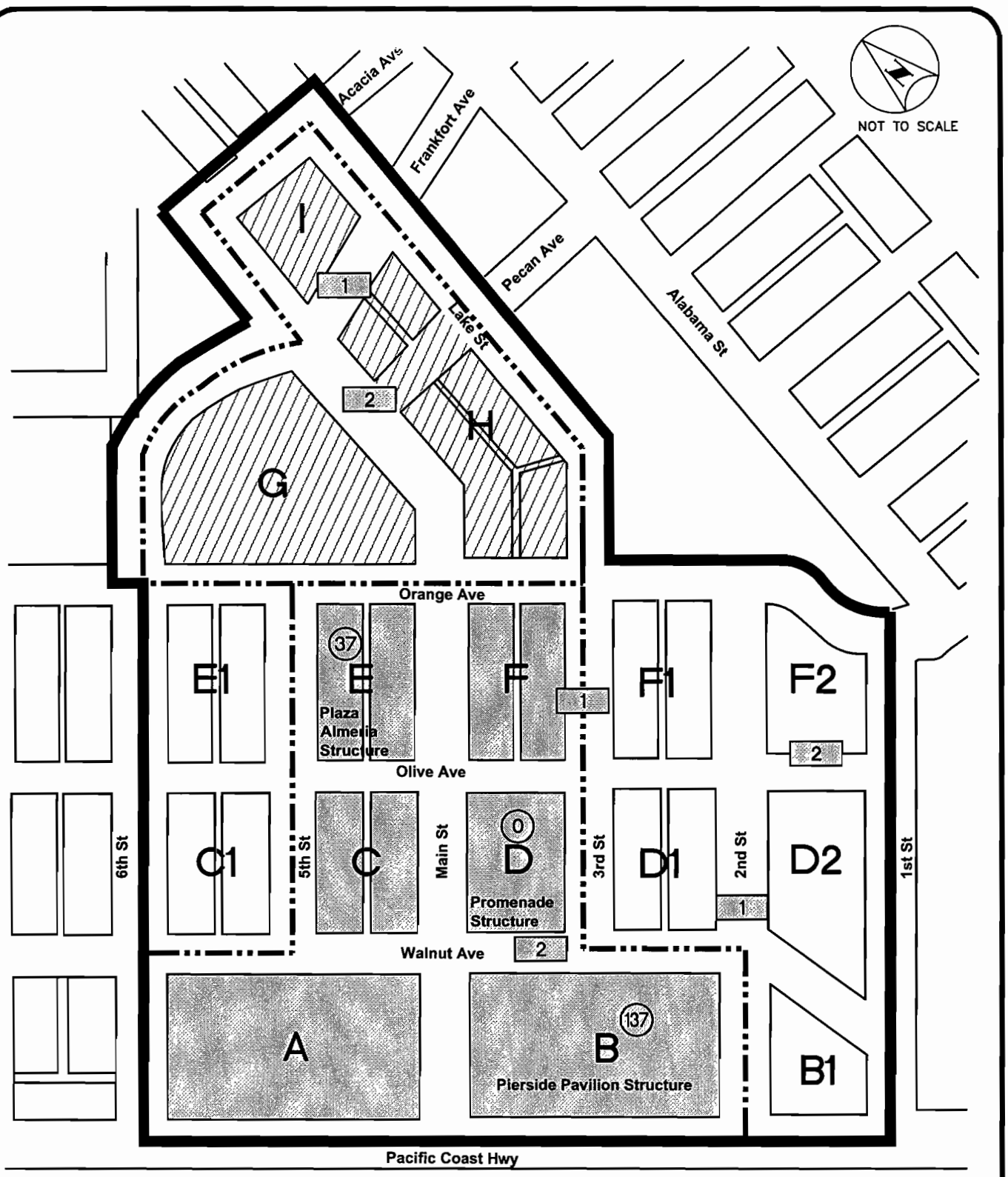
When the beach parking demand is combined with the downtown parking demand, the overall peak parking shifts to between 1:00 and 2:00 PM when 568 cars were parked in the beach lots, and the total number of cars parked in the combined downtown and beach parking was 2,559 cars, representing 92% occupancy of the downtown and beach parking.

The results of the weekend parking demand data collection for the downtown area (not including beach parking) are also illustrated in graphic format **Figure 7**. It can be seen that on the weekend day, the parking demand grew quickly throughout the morning, reaching almost 2,000 by 2:00 to 3:00 PM. Demand decreased slightly in the mid afternoon hours, but still remained above 80% occupancy until after 10:00 PM.

**Summer Holiday / Peak Event Parking Demand**

One other parking data collection effort was undertaken to evaluate the existing downtown parking demand. On select days of the year, specifically summer holidays (Fourth of July, Labor Day) and on large event days (i.e., surfing or beach volleyball tournaments), the downtown area experiences peak numbers of event participants and beach visitors. While the events are generally focused on the pier and the beach, the downtown area is also very busy during these times. The beach parking supply does not accommodate the beach parking demand on these occasions, and the downtown parking is impacted. The beach and downtown parking facilities fill early in the day, and parking demand stretches into the residential neighborhoods surrounding the downtown.

While it is acknowledged that some downtown parking occurs on the neighborhood streets on any given day, this is generally not a result of a lack of parking at the beach and in the downtown, but rather the desire of the individual to avoid paying for parking. (Outside the downtown core, street parking in the surrounding neighborhoods is unmarked and free.) As parking demand in the beach and downtown parking facilities increases, the residential neighborhoods experience an increasing amount of parking encroachment by downtown and beach visitors.




Note: Promenade structure full, 99% of the on-street parking occupied

**LEGEND:**

- = Off-Street
- = On-Street
- XX = Number of Empty Spaces
- = Downtown Parking Master Plan Boundary
- = Study Area Boundary

# FIGURE 6
# LOCATION OF AVAILABLE PARKING SPACES - SUMMER WEEKEND

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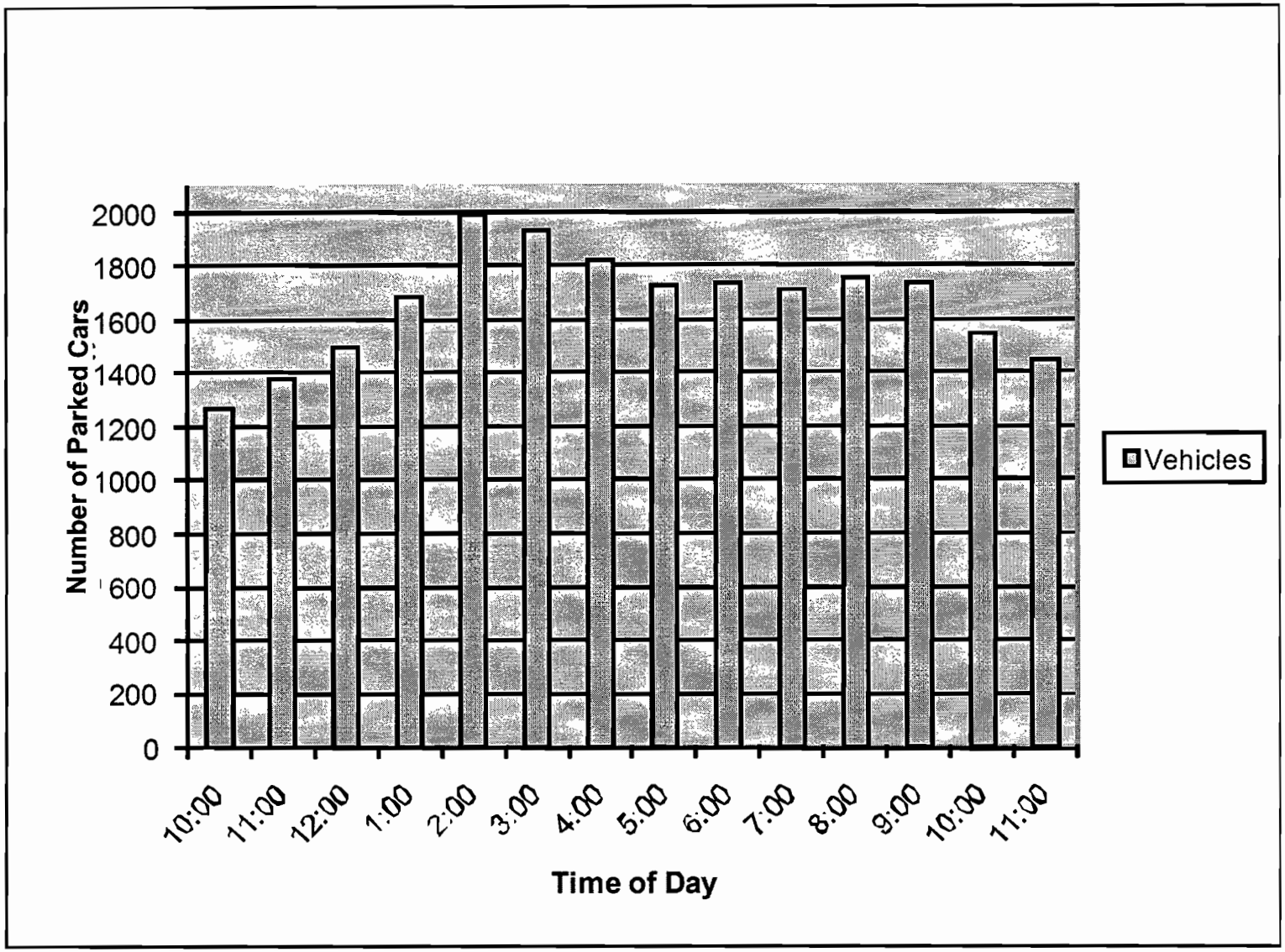


# FIGURE 7
# DOWNTOWN PARKING DEMAND - SUMMER WEEKEND



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Kimley–Horn and Associates, Inc.

To measure the extent to which parking demand for the beach and downtown impacts the neighborhood streets, observations of parking patterns on the neighborhood streets was conducted on a typical summer weekend day, and on Labor Day weekend. The observations entailed documenting how far outside of the downtown it was necessary to go on each street in order to find a parking space. The results for the typical summer weekend day are shown on **Figure 8,** and the results for Labor Day weekend are shown on **Figure 9.** Each line on the map indicates how far outside of the downtown the data collector needed to drive during each hour of the day on each street before finding an available parking spot.

Review of Figure 8 – the typical summer weekend day – shows that on a typical weekend, the greatest demand for street parking occurs along Walnut, with at-capacity conditions stretching as far as 17th Street at its peak. This parking demand can generally be assumed to be more beach users than downtown visitors. The "demand line" adjusts inward toward the downtown as the distance from the beach increases.

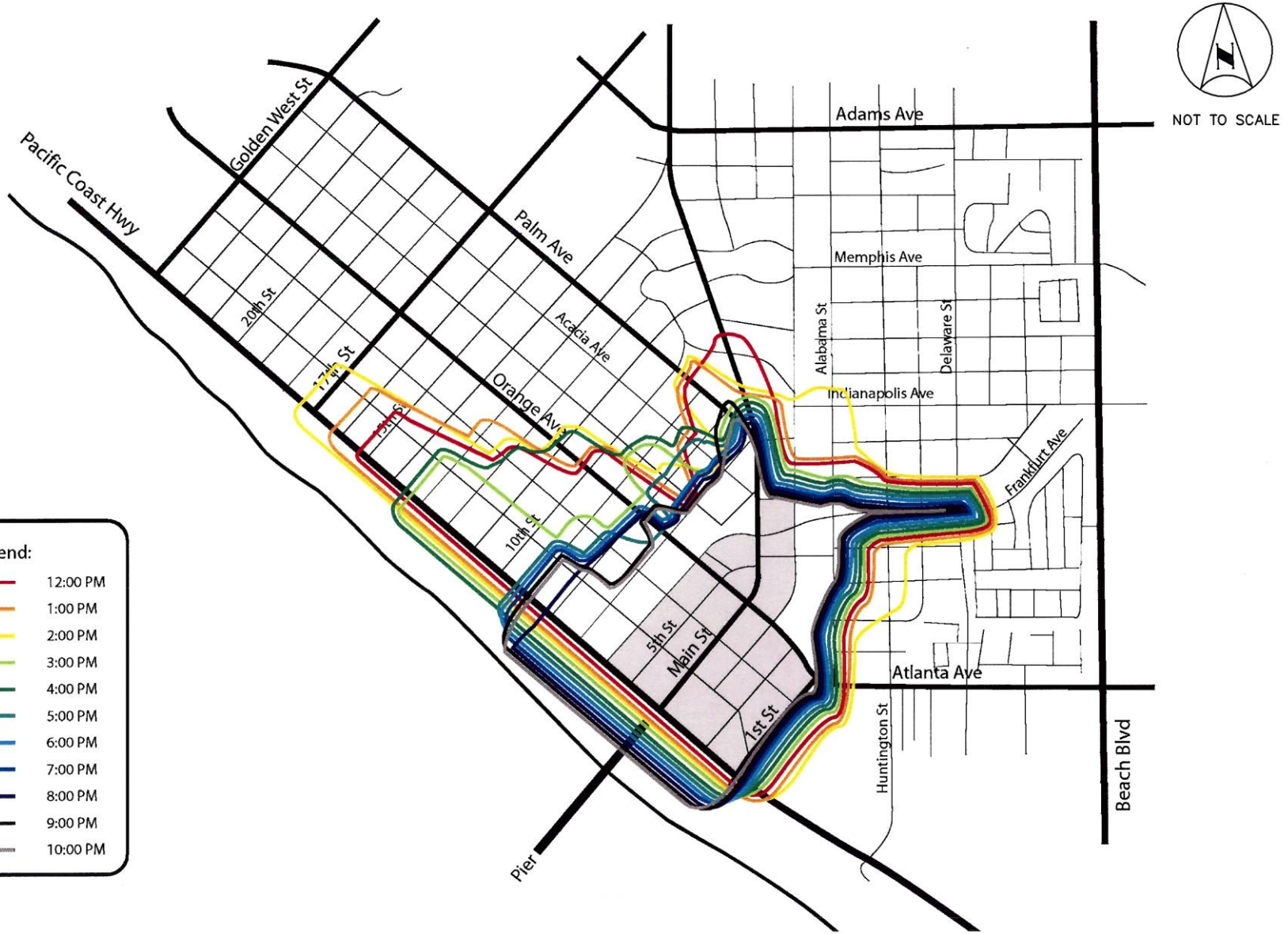
Review of Figure 9 – Labor Day weekend – shows a dramatic difference in parking demand on the neighborhood streets, demonstrating the impact that major beach and holiday events can have on the neighborhoods surrounding the downtown. For a number of hours of the day on Labor Day weekend, all parking in the downtown and at the beach were full, and street parking on neighborhood streets was at capacity from downtown to Goldenwest Street, and from PCH to beyond Orange Avenue, and also stretched several blocks north and east of downtown.

**ANALYSIS OF PARKING DEMAND**

The parking analysis indicates that the downtown and beach parking demand is seasonal in nature, with significant fluctuations throughout the day, week and year. The parking data and observations indicate that the shared parking supply currently serving the downtown adequately accommodates the typical parking demand for the downtown businesses, and the beach parking supply accommodates the beach parking demand on weekdays and weekends during the non-peak seasons. On the other hand, the data also indicates that parking shortages occur when there are special events at the beach or downtown, and that beach and special event parking demand encroaches not only into the downtown parking supply, but also into the surrounding neighborhood.

The following discussions address two parking conditions in the downtown:

- Typical Downtown Operating Conditions: Under these non-event conditions, the reduced parking ratios for downtown development adequately meet the parking needs of the downtown businesses, due to shared parking synergies.
- Seasonal Peaks and Special Event Conditions: Under these conditions, parking shortages occur in the downtown and beach parking due to the influx of event participants and beach-goers. An increased parking supply and parking management practices are needed to address the parking needs for these events.




# FIGURE 8
# PARKING ON NEIGHBORHOOD STREETS - TYPICAL SUMMER WEEKEND

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# FIGURE 9
# PARKING ON NEIGHBORHOOD STREETS - SUMMER HOLIDAY WEEKEND

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**Typical Downtown Operating Conditions**

Under typical non-holiday, non-event conditions, the parking data has shown that the existing parking supply adequately meets the parking needs for the existing downtown development. The reduced parking ratios for downtown development adequately meet the parking needs of the downtown businesses, due to shared parking synergies. A more detailed discussion of the shared parking concept and an analysis of shared parking benefits for the Downtown Parking Master Plan area are provided in the following section.

Shared Parking for Downtown Development

As indicated in the introduction to this report, the current Downtown Parking Master Plan contains reduced parking ratios for certain land uses within the Downtown Parking Master Plan Area. This is based on the concept of shared parking, which recognizes that one parking space can be shared between two or more uses that have divergent parking needs in terms of daytime versus nighttime hours or weekday versus weekend hours.

The extent to which shared parking benefits can be realized for a particular mix of uses has been a subject of research and reporting for the Urban Land Institute (ULI). The ULI is a non-profit education and research institute which has developed a detailed shared parking analysis procedure which is published in the Shared Parking book (Second Edition, 2005).

According to the ULI Shared Parking publication,

> "Shared parking is the use of a parking space to serve two or more individual land uses without conflict or encroachment. The ability to share parking spaces is the result of two conditions:
>
> - Variations in the accumulation of vehicles by hour, by day, or by season at the individual land uses, and
> - Relationships among the land uses that result in visiting multiple land uses on the same auto trip."

The ULI Shared Parking methodology is a multi-step process that, first, establishes the stand-alone peak parking requirements for a variety of land uses, including retail, office, theater, restaurant, hotel, and residential uses. The methodology then applies a percentage to the peak requirement for each use, for each hour of the day between the hours of 6:00 AM and midnight, reflecting the fact that the parking demand for each use varies throughout the course of the day.

Shared parking synergies exist between different uses whose peak operating times occur at different times of the day. The most dramatic example of complementary uses for shared parking purposes are office and theater. When the office parking demand is at 100% (at 10:00 and 11:00 in the morning on a weekday), the theater parking demand is nominal, according to the ULI document, Table 2-5.

Conversely, when the theater parking demand is at 100% (from 8:00 to 10:00 on a weekend night), the office has virtually no parking demand. These two uses, then, can share a portion of the same parking supply without detriment to the other, rather than each providing their own distinct and complete parking supply.

The ULI study also identifies monthly variations in parking demand for each use for each month of the year. Parking demand for standard shopping center uses peaks in the month of December, during the Christmas season, and is at 75% or less from January through October. Theater, on the other hand, is at its peak during the summer months of June and July, and at 50% in the months of November and December.

Each of these factors is incorporated into spreadsheets, and applied to the specific mix of uses associated with a development area. Applying these factors to a particular mix of integrated land uses yields a projected peak parking requirement at a particular time of day (weekday and weekend) and season. The total peak parking demand for that mix of uses will be less than the sum of the full parking requirement for each individual use, due to the interrelationships and benefits of shared parking synergies.

Using the ULI Shared Parking methodology, the anticipated peak summer season parking requirement for the existing mix of development in the DPMP area was analyzed. A comparison of the forecasted peak parking supply according to the ULI Shared Parking analysis methodology vs. the full parking supply that would be required for the existing downtown development based on standard City parking rates is provided on the chart below. A copy of the shared parking worksheet based on the ULI shared parking methodology is provided in the appendix to this report.

**Standard City Parking Ratios vs. ULI Shared Parking Requirements for Existing Development within the DPMP Area**

| Condition | Current DPMP SF [2] | Current DPMP Parking Supply [2] | Required Parking, per | | Shared Parking Benefit [1] | |
|---|---|---|---|---|---|---|
| | | | City Code | ULI Shared Parking | Spaces | %-age |
| Existing Development | 717,641 | 2,696 | 4,098 | 2,685 | 1,331 | 33.8% |

[1] Shared Parking Benefit = Reduction in parking supply needed due to mixed-use synergies: City Code Required Parking minus ULI Shared Parking Required Parking = Shared Parking Benefit

[2] Existing square footage includes total approved square footage for The Strand. Current Parking Supply total includes the 424-space Strand parking structure.

As the chart indicates, whereas the parking supply that would be required for the existing downtown development by application of the full standard city parking ratios would be 4,098 parking spaces, the ULI shared parking analysis indicates that, with the current mix of uses, the summer season peak demand is estimated to be 2,685 -- over 30% benefit due to shared parking relationships. The chart also indicates that the existing parking supply of 2,696 spaces closely mirrors the projected peak demand, indicating that the reduced parking ratios that are currently applied to development in the downtown parking master plan area are adequately meeting the needs of the downtown businesses.

It should be noted that this shared parking analysis addresses only the parking needs for the downtown businesses. The impact of the beach and summer events on downtown and area parking, and recommended measures to address these impacts, are addressed in a later section.

**Seasonal Peaks and Special Events Conditions**

As indicated in preceding discussions, the downtown parking supply adequately services the parking needs of the downtown businesses under typical, non-event operating conditions. The reduced parking ratios for downtown development adequately meet the parking needs of the downtown businesses, due to shared parking synergies.

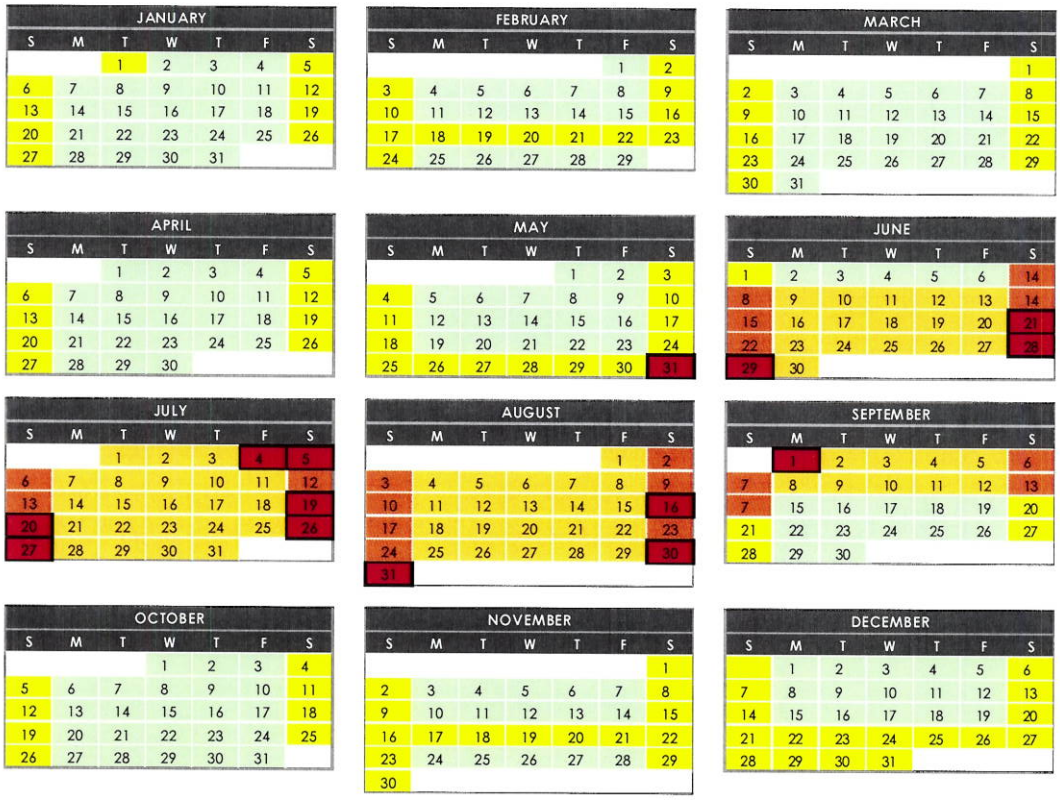
However, the data has also shown that the demand for parking increases during the peak summer season due to demand by beach-goers, with at-capacity or over-capacity conditions occurring during the summer, particularly on weekends, and parking demand greatly exceeds the parking capacity on summer holidays and special event days.

The chart on **Figure 10** highlights the seasonal nature of parking demand in the Huntington Beach downtown and beach area, and demonstrates with a color-coded approach the changing parking characteristics experienced throughout a typical year in Huntington Beach, as discussed below:

- Light Green Days: On weekdays during the winter months and while school is in full session (just under 50% of the year, represented by the light green color on the chart) there is adequate public parking throughout downtown. Some downtown and beach parking demand intrudes into adjacent neighborhoods, particularly closest to the beach. This intrusion is not due to a lack of available parking, but rather due to individuals wishing to avoid paying for parking.

- Yellow Days: On winter weekends and during school breaks (approximately 23% of the year, represented by the yellow on the charts) parking demand increases, but there is still adequate public parking throughout downtown. None of the larger parking facilities are full, but the metered parking on Main Street and the free street parking throughout the downtown is occupied, and parking intrusion on neighborhood streets increases.

- Light Orange Days: During the summer weekdays (approximately 19% of the year, represented by the light orange on the charts) the demand for the street parking throughout the downtown approaches capacity. The parking rate in the beach lots is a flat $15.00 fee, regardless of how long the individual stays, and many beach-goers choose to use the street parking and the parking structures, where the cost to park is based on parking duration. Parking is still available in the upper and lower levels of the parking structures and on some streets.




| Season | Winter Weekday / School in Session | Winter Weekends / School Breaks | Typical Summer | | Summer Special Events |
|---|---|---|---|---|---|
| | | | Weekday | W-end | |
| # days per year | 175 | 85 | 70 | 20 | 15 |
| %-age | 48% | 23% | 19% | 5% | 4% |
| The Parking Experience | Plenty of parking throughout downtown. Any parking encroachment in neighborhoods is to avoid paying for parking, and not due to lack of parking supply. | Adequate parking, no major facilities full, free street parking taken, increased parking occurs on neighborhood streets. | All street parking full, residents increasingly impacted. | | Supplemental parking and transportation measures needed, residents severely impacted. |
| | | | Beach-goers parking in downtown structures. Some parking still available throughout downtown. | Prom-enade Struc-ture full. Difficult to find parking | |

# FIGURE 10
# SEASONAL PARKING CHARACTERISTICS

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- Dark Orange Days: During the non-event summer weekends (approximately 5% of the year, represented by the dark orange on the chart) street parking is fully occupied throughout the downtown, the Promenade Structure is full by midday, and it becomes increasingly difficult to find parking in other areas of downtown. Visitors who are not familiar with the area may not know where other parking options are. Although some parking may still be available in the other structures, parking intrusion into the neighborhoods increases, reflecting a combination of a perceived lack of parking, and the desire to avoid paying parking fees.

- Red Days: On summer holidays and major downtown and beach event days (approximately 4% of the year, represented by the red on the chart) all parking facilities and on-street parking are fully occupied for a number of hours throughout the day. Parking intrusion into the neighborhoods reaches several blocks beyond downtown, and supplemental parking and transportation measures are needed.

The next section of this report presents parking strategies to address the existing parking conditions in the downtown, including measures to make better use of the existing parking, to improve the parking environment for typical non-peak and summer seasons, and to implement supplemental parking and circulation measures to address the summer holiday and special event parking needs.

**RECOMMENDATIONS FOR EXISTING AND FUTURE CONDITIONS**

The recommendations identified on the following pages are intended to represent a "toolbox" of measures that should be implemented to improve the parking environment in downtown today, based upon opportunity and ability. Some, such as implementing a valet program or adding more bicycle parking can be easily and quickly achieved. Others, such as constructing temporary lots and forming business-to-business or business-to-city agreements will take additional effort and time to achieve. The parking strategies are organized here as:

- Recommendations to Support Downtown Today
- Recommendations to Support Additional New Development

One of the most important aspects to consider when reading through the strategies is that most are, and should be, inter-connected. Rates charged in the structures affect residential parking intrusion. Remote parking facilities with shuttle service would provide options for employees that may eliminate the need for as many employee-only spaces downtown, etc. As each strategy is implemented, the remaining strategies may need to be re-evaluated, re-defined, or re-prioritized.

**Recommendations to Support Downtown Parking Today**

**1. Implement the Recommendations in This Report**

Implement the recommendations in this Parking Study. The recommendations in this report have been developed to improve the parking environment for downtown, even for non-event days, as well as to identify additional parking measures needed to address summer holiday and event parking needs.

**2. Use Collected In-Lieu Fees to Increase Parking Capacity**

Identify ways to use collected in-lieu fees to increase parking capacity. This could include the construction of temporary parking on currently vacant lots, funding of a shuttle service between remote lots and downtown, or entering into lease agreements to use available spaces in privately-owned parking lots.

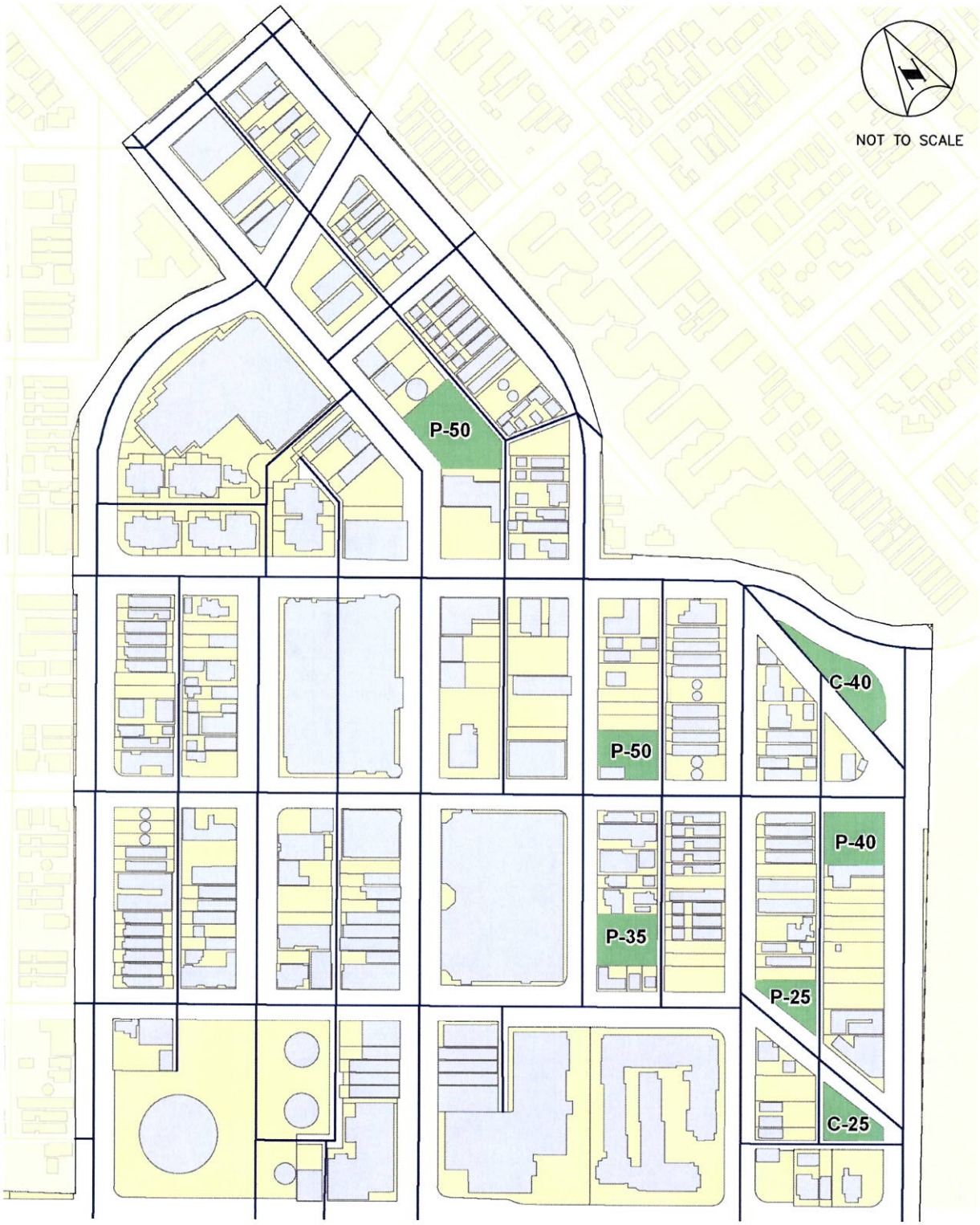
**3. Construct Additional Parking Spaces**

Construct additional parking on vacant parcels – either as temporary or permanent lots, paid for with in-lieu fees, general funds or combined financing from the public and private sector. Small temporary parking lots should be constructed on currently vacant parcels as an interim use until that property is developed. This could include City-owned parcels and private properties. Lots located on the downtown periphery could be designated for employee parking only. Reduced parking rates for employees could be established, and employers could be required to purchase or provide validations. The lots would need to be paved and striped, and designed with adequate lighting. Monitoring and enforcement would be required.

The location of currently-vacant parcels in the downtown and an estimate of the potential number of parking spaces that could be gained are identified on **Figure 11**. Up to 265 surface parking spaces could be provided if this strategy were implemented.

**4. Modify the parking rates**

Modify the rates charged for different parking facilities. How much people have to pay to park and how long they are allowed to park directly influences where they park and for how long. The prices charged need to be based upon where the City and downtown businesses want longer-term parking (employees and beach-goers) to be, and where short-term, high turnover parking should be. Higher prices should be charged for prime spaces, including on-street parking, particularly on-street along Main Street and the first two blocks of each cross-street, and the prime access levels of parking garages. Lower prices should be charged for locations that can better accommodate long-term parking. Time restrictions and pricing based on duration can also influence where long-term parking occurs The price differences should also be reflected in permits and the Beach Pass. Time restrictions must be enforced consistently.




**LEGEND:**

| | | |
|---|---|---|
| | = | Vacant Lots: Potential for Valet Operation or Employee Parking |
| XX | = | Number of Spaces |
| P | = | Private |
| C | = | City-Owned |

# FIGURE 11
# LOCATION OF VACANT PARCELS

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A Parking Rate Study report was prepared for the City in 2009. The report includes recommended pricing changes for the different parking facilities and City Programs (structures, on-street "tiered" meter pricing, permits and customer validation).

### 5. Provide Employee Parking Only Spaces

There should be formalized, designated employee parking spaces in the downtown area. Some employers provide parking validation for their employees, but those employees often utilize the most prime public parking spaces for long periods of time. The lower levels of the Almeria and Pierside structures and the upper level of the Promenade structure could be designated for employees only. Monthly permits or employer validations could compensate the garages. Reduced rates could be charged, even if only during non-peak demand times.

Downtown employers currently have the option to purchase employee parking validation stickers for a reduced rate. If this option is to be continued, it should be restructured to achieve better control over the appropriate use of the stickers, i.e., the employee validation is honored only in specified, non-prime parking areas, such as the top or lower floors of the parking structures, for example. The validations should only be honored when the employee is on an actual a work shift, so a timed validation or some other form of control from the employer would be required. The employee validation process and policies should be reviewed and evaluated periodically.

Businesses could also enter into agreements with each other. Businesses that have private parking lots with more spaces than needed for their own purposes could enter into agreement with businesses needing spaces for their employees, with some form of compensation. This may be an attractive option to both businesses, whereby the parking lot owner knows who their parking patrons are, and the employer has a specific parking arrangement for his/her employees. The City could serve as the agent in these agreements, if necessary.

### 6. Designate On-Street Locations for Loading and Unloading

Designate specific on-street locations as loading/unloading zones during designated hours only. Restrict loading activity to the early morning hours and allow the areas to be used for public parking. A total of 20 on-street parking spaces would be gained by implementation of this measure. The on-street loading areas should be convenient, located on side streets, and serve several properties. The City should maintain flexibility to change the location of loading zones in response to changes in development. Larger developments should provide on-site loading/unloading.

### 7. Provide More Bicycle Parking

The demand for bicycle parking downtown greatly exceeds the supply of bicycle rack parking provided. When bike racks are full, bicyclists park and lock their bikes to other fixtures, such as sign posts, parking meters, trees and fences. Additional bicycle parking will help to accommodate the existing bicycle parking demand and will also encourage increased bicycle ridership, which would have the added benefit of reducing the number of vehicle parking spaces needed. Potential locations for additional public bicycle racks are shown on **Figure 12**. Locations for over 400 additional bicycle rack spaces have been identified. In addition, all new non-residential development should be required to provide off-street bicycle racks for employees and customers.

These locations are dispersed throughout the downtown, in areas where available space permits without impeding pedestrian movement or requiring the removal of parking. Potential locations for additional bike racks include areas on the street in the triangular-shaped chevron-striped areas at the end of diagonal parking rows, on the sidewalk along red-striped curbs where street parking is prohibited, at the end of corner curb extensions, adjacent to or near buildings, and under the pier. In addition to these spaces within the Downtown Specific Plan area, there is opportunity for additional bicycle parking spaces in the Pier Plaza and Pier Parking areas.

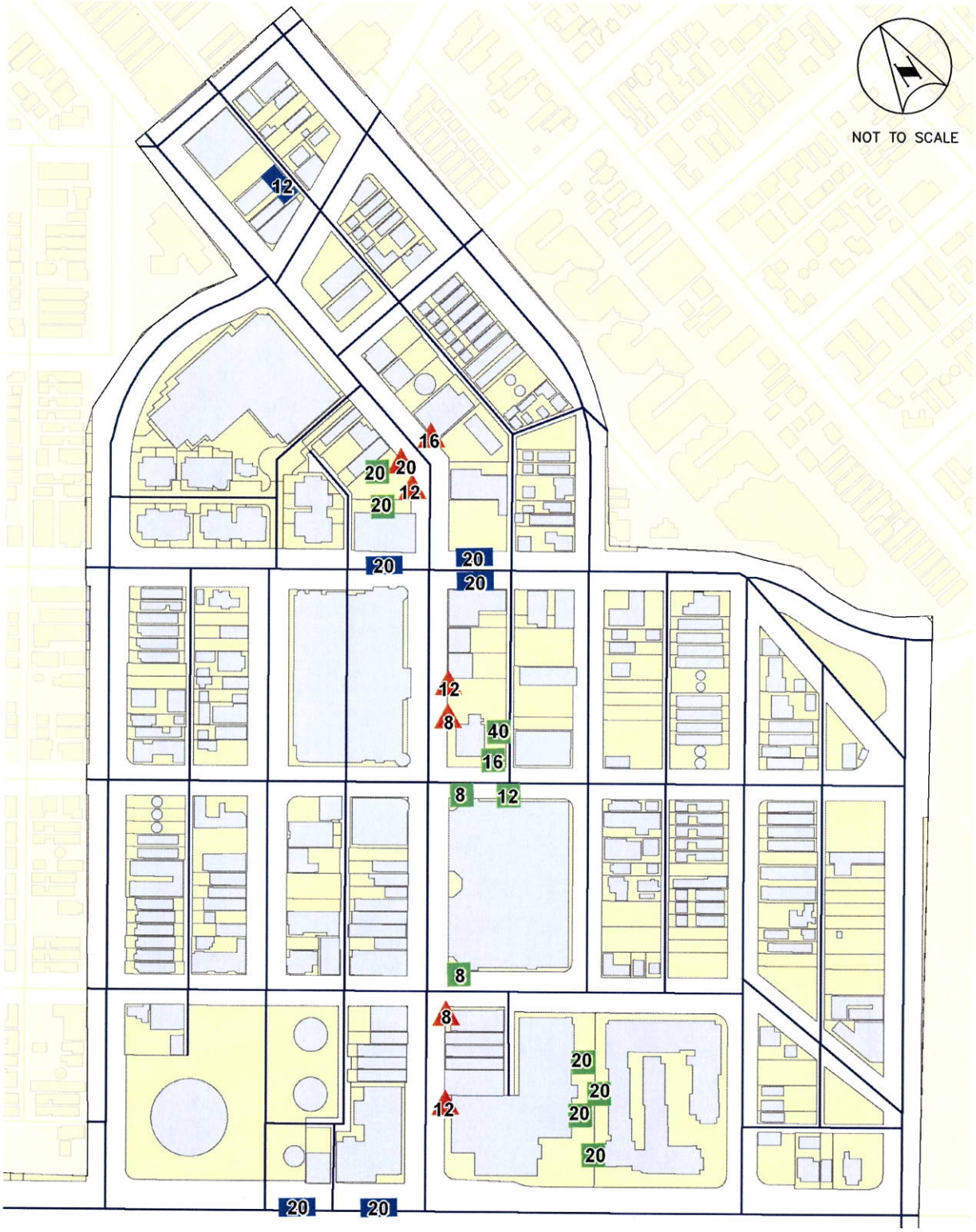
All new development should also be required to provide bicycle parking racks for public use and a secure area inside for employee bicycles.

### 8. Establish a Formal and Organized Valet Parking Program

For peak demand days, when additional parking is needed on a short-term basis, valet operations should be employed to increase parking capacity. Depending on the shape and size of the parking area and the dimension of the drive aisles, valet techniques can be employed to increase the parking capacity by 12 to 40%. The higher yield is applicable to parking areas with long, continuous parking rows without posts or dividers, and with standard-width, two-way drive aisles. The valet attendant will "scrunch park" the vehicles, ignoring the parking stripes, and can parallel park a car across the back of a row of 90-degree parked cars for maximum capacity. In larger parking fields, cars can be tandem-parked two or three deep for even greater yield.

It is estimated that a valet operation on the lower floor and the two upper floors of the Promenade structure could yield an additional 100 to 150 vehicles. It is recommended that the first level be left as self-park. To the extent that a space is available, individuals can park themselves, and the drive aisles would be maintained at full width. Once the driver reaches a particular point in the structure, the individual would be required to turn their car over to a valet operation. Advance signage and notification that a valet operation is in place would be posted at the entry to the structure.

The Pierside structure is already striped for regular and valet parking operations on its lower levels, and can accommodate approximately 60 additional vehicles if the valet potential is maximized.




**LEGEND:**

- = On Sidewalk - Curbside
- = Adjacent to Building
- = In Street - At End of Diagonal Parking
- XX = Number of Spaces

# FIGURE 12
# LOCATION OF ADDITIONAL BICYCLE PARKING

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The Plaza Almeria structure does not lend itself to valet parking techniques, because of the numerous support columns and the configuration of the parking aisles. It does not appear that a valet operation would yield enough additional capacity to make it worthwhile in the Almeria structure.

The Strand currently offers valet parking service to customers and hotel guests. Some areas of The Strand parking structure are striped with tandem parking spaces, which would be used by valet attendants. During peak parking events, valet attendants can also employ additional valet parking techniques in other parts of the structure, as described above, to maximize parking capacity on a temporary, as-needed basis.

Valet operations could also yield a modest amount of additional capacity in the city-owned and private vacant lots that were identified earlier as candidates for interim short-term parking. Because most of these surface lots are unimproved, and are therefore unencumbered with structures or posts, they offer maximum flexibility for valet operations, particularly in the regularly-shaped (rectangular or square) parcels. In addition to the (up to) 265 additional spaces that could be achieved by conducting interim parking operations in the vacant lots, employing valet operations in these lots could accommodate another approximately 50 to 75 vehicles.

**9. Use Remote Parking Lots and Provide a Shuttle Service**

For peak parking demand days, such as summer holidays and major event days, when the downtown and beach parking reaches capacity and additional parking is needed to meet the demand, a remote parking lot program with shuttle operation is recommended. A supply of as many as 2,000 parking spaces in a combination of public and private lots has been identified north of downtown. On any given day, the availability of any of the remote lots would be dependent on the operating schedule and the parking needs of the lot owner. Agreements to use these parking facilities on a pre-arranged, scheduled basis would be required between the City and each of the entities.

**Figure 13** illustrates the locations of these public and private lots, described below:

- *Huntington Beach City Hall*: Approximately 450 spaces, generally available during evenings and weekends.

- *Seacliff Office Park*: Located across from City Hall, with approximately 500 spaces, generally available during evenings and weekend. This development is privately owned, and use of the parking lot would need an agreement with the City.

- *Huntington Beach High School, Worthy Park, and First Christian Church:* Located roughly within 1 mile of downtown, there are approximately 900 to 1,000 spaces at these locations. Availability would be dependent on the day and time and the activity schedules for these uses, and use of the parking lot for a remote parking and shuttle program would need to be arranged through an agreement with the City.

- *City of Huntington Beach Central Library and Sports Complex*: In addition, on the largest of event days, additional parking could be available at the City's Central Library and Sports Complex. Located 2 miles away, this location has approximately 700 spaces, but the number of spaces available for downtown events would depend on the schedule of events. It is estimated that 300 spaces would be available during most evenings and weekends, if needed to accommodate peak demand.

Shuttle service would be needed to transport users and demand for the shuttle would increase as the parking demand in downtown increases. Advance advertisement of shuttle pick-up locations would help to increase awareness and usage of the shuttle. Prominent signage along Main Street leading to downtown and on the streets surrounding the remote lots would also help to capture visitors headed downtown who may not know about the remote parking and shuttle service in advance. These remote lots could provide parking for employees with some spaces designated for employees only whenever the shuttle service is provided.

The downtown shuttle pick-up/drop-off point should be located near the north end of downtown, such as near the library, or near the fire station, so that the shuttle vehicles can make more frequent and continuous loops to and from the remote lots, without getting caught in the event traffic on Main Street.

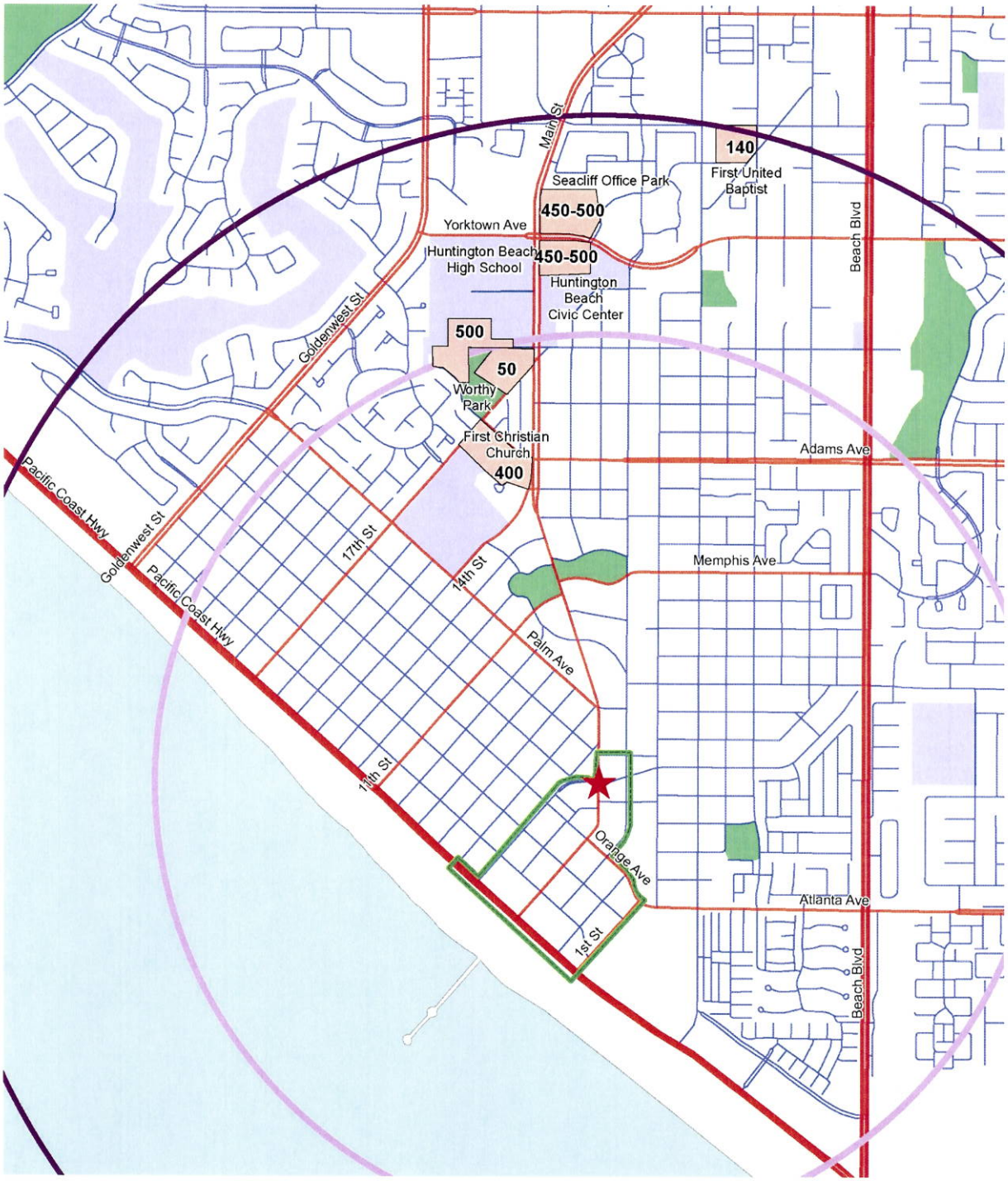
Parking for special events should be accommodated through the utilization of this type of auxiliary parking and transportation program. The downtown businesses should not bear the full burden of providing the parking needed to accommodate all of the special event participants and attendees. The permitting process for major events should include the requirement that event organizers provide a parking and transportation management plan to accommodate the parking demands of their event participants and attendees.

**10. Reduce Parking Intrusion on Neighborhood Streets**

As shown on Figures 8 and 9 (presented previously) residents who live on the streets near downtown are impacted, at times, by others parking on the neighborhood streets. This parking encroachment consists of a number of groups of people:

- Beach-goers and surfers,
- Visitors to the downtown,
- Employees of downtown businesses.

On a typical day this is an issue primarily on the streets closest to downtown, and on the streets closest to Pacific Coast Highway (PCH) and the beach. On non-event days, parking is readily available throughout the downtown and at the beach, and the people parking in the neighborhood do so to avoid paying for parking. For employees of the downtown, in particular those whose employers do not provide parking or a parking subsidy, finding free street parking for a full 6- or 8-hour shift will save the employee $12.00 to $15.00 per day – more on event days and summer holidays.




NOT TO SCALE

**LEGEND:**

= 1 Mile Radius

= 1.5 Mile Radius

XX = Number of Spaces

# FIGURE 13
# LOCATION OF REMOTE PARKING LOTS

Kimley–Horn and Associates, Inc.

FILENAME: Sep 08, 2009 - 6:07pm K:\ORA_TPTO\ZSAC\Projects\HB Downtown Parking\Figures\Figures_September 2009.dwg

On high demand days, such as holidays, event days, and hot weather days; whether caused by demand for the beach, or a downtown event, or both; the occurrence of downtown and beach parking encroachment into the neighborhoods extends further into the neighborhood in all directions. A person's reason for parking in the neighborhood becomes a combination of a lack (perceived or real) of available parking and the desire to avoid paying for parking, or both. Street parking on many streets is fully utilized on these days, leaving some residents no place to park when they return home, and no place for visitors to park.

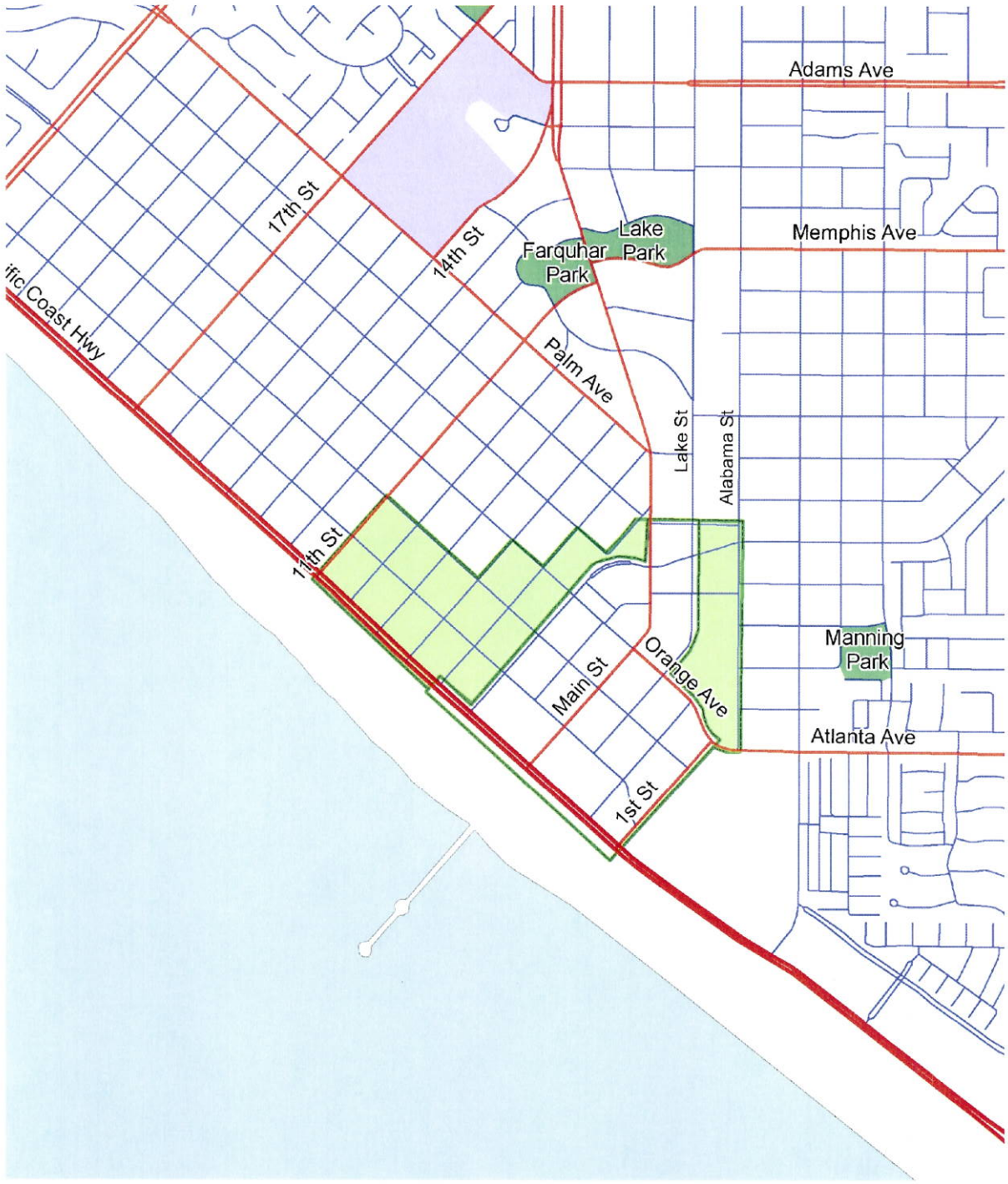
One measure to provide some relief to residents is to implement a parking meter / residential permit system, whereby street spaces are metered, and residents are allowed to park at the meter without paying, as long as they have a parking permit.

- The cost to park should be comparable to the cost to park by the hour at the beach or downtown.
- The meter should have a time limit, such as one hour, or two hours, so that beach-goers and downtown visitors find it more convenient to park in the parking areas that are provided for them.
- Residential permits should be restricted to specific streets, i.e., residents can't use the permit to park at all parking meters throughout the neighborhood and downtown.

The area preliminarily recommended for implementation of this program is shown on **Figure 14**. The boundary shown on Figure 14 is staggered, stretching further away from Main Street as you approach PCH, reflecting the increased demand for free street parking by beach-goers.

The benefit of a parking meter / residential permit program will be to provide relief for the residents, especially on high demand days. One potential impact of this program will be to push some parking demand into beach and downtown parking facilities. While the intent is to encourage parking to occur "where it belongs" throughout the year, in the summer months, and during high demand days, the downtown and beach parking supplies will experience greater usage than currently occurs, and will reach capacity sooner and more often. While this could, in turn, just push parking demand back into the neighborhoods on the higher demand days, the end result will be fewer occurrences of parking encroachment in the neighborhoods on a day-to-day basis.

Another impact of a meter / permit program may be that it pushes parking demand further out into the neighborhood. Wherever the limits of the meter / permit program are located, there will be some people who are willing to walk one block further for a free space. The results of the program should be monitored, and the limits of the program may need to be extended or modified based on the results.




NOT TO SCALE

**LEGEND:**

= **Recommended Limits of Meter/Residential Permit Parking**

# FIGURE 14
# LIMITS OF RESIDENTIAL METERED PERMIT PROGRAM

Kimley–Horn and Associates, Inc.

FILENAME: Sep 08, 2009 - 6:07pm K:\ORA_TPTO\ZSAC\Projects\HB Downtown Parking\Figures\Figures_September 2009.dwg

### 11. Install Parking Information and Way-Finding Signs

A system that provides real-time information regarding parking availability should be developed and implemented for the existing parking facilities. Providing downtown visitors with information and guidance on the location and availability of parking will help to bridge the gap between the actual capacity and the practical capacity of the parking supply. Practical capacity addresses the driver's perception as it relates to the operational efficiency and accessibility of a parking supply.

Depending on the size and location of the parking, and the accessibility and visibility of not only the parking entrances, but the parking supply itself, an individual could perceive the parking facility as full when occupancy levels reach anywhere between 80% and 95%. For a single flat, open parking lot, the individual will quickly be able to determine whether or parking is available. For an area that involves multi-level parking structures, a grid of street parking, and numerous individual parking lots, it is much harder to determine not only whether or not parking is available, but where the available spaces might be. When the potential parker finds it difficult to locate an available space, or even to know if there is a spot available at all, they may give up trying to find a spot, even though there may be parking available.

For downtown Huntington Beach, only the Promenade parking structure provides a status of the available parking supply, in the form of a digital read-out of available spaces over both entrances. When an individual approaches any one of the parking structures and finds that it is full, they are faced with, first, wondering if there are spaces available in one of the other structures, then working their way through traffic to the next parking structure, without any guarantee that they will find a spot there. Even if there are many spaces still available in the next structure, the visitor doesn't know that, and has no way of knowing if it will be worth his/her time to try to find out.

Providing a series of directional, wayfinding signs and electronic status reporting throughout the downtown can help to make better use of the entire parking supply. While it would not physically increase the number of parking spaces provided, it would make better use of the existing parking supply. If a visitor can, at a glance, determine where other parking supplies are located, and whether or not there are spaces available, even the hidden, harder-to-find spaces will be better utilized.

Benefits would be to improve the usability (find-ability) and occupancy of available parking, reduce visitor frustration, and potentially reduce the loss of business that could be caused by the perception of a lack of parking.

A potential impact of implementing a system such as this would be the cost to design, install, and maintain the system. A challenge would be to avoid the incompatibility of the high-tech look of an electronic system with the casual beach town image.

### 12. Allow the General Public to Use Private Business Lots

Private business lots with low parking demand could be made available to the public. The location of private business lots and the number of spaces in each lot is shown on **Figure 15**. There is potential for approximately 125 of the private parking spaces that could be made available to the public in the study area.

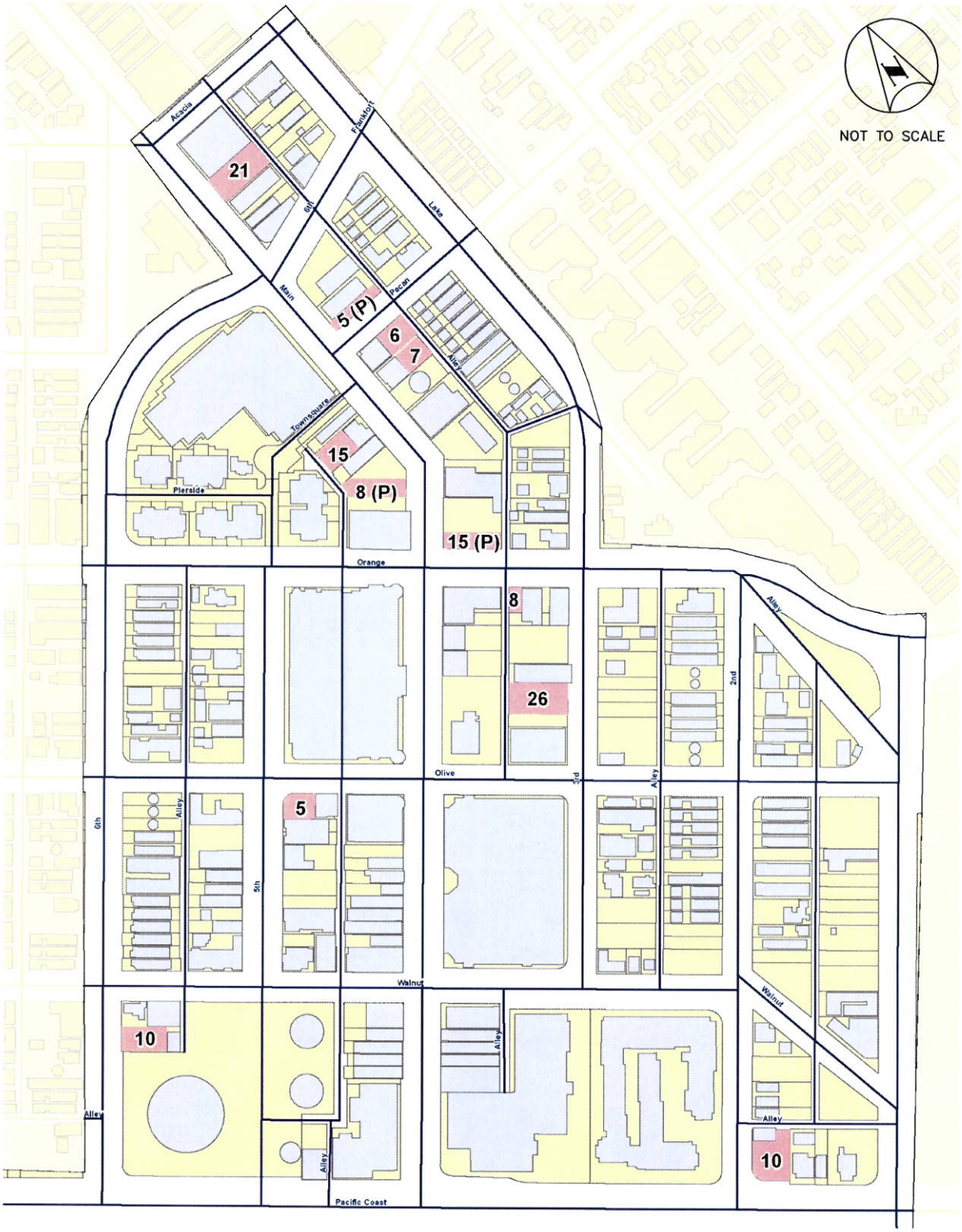
There are a number of ways that these private parking spaces could be made available on a shared-use basis. The City could act as the agent to help businesses take advantage of the market and regulate the costs to manage the demand. A business operators and property owners could enter into a business-to-business agreement whereby employees of one business are permitted to park in designated spaces in a private business lot. The spaces could be made available during specific times, metered and signed. Some business owners currently apply for a day permit on designated peak days to operate a pay parking lot on their property. A formal process could be implemented, to better manage the times and prices, and could allow the owner to retain the revenue generated from the parking fees charged. The property owner would assume liability for claims related to the public use of their property for parking.

**Recommendations to Accommodate Parking Needs for New Development**

The proposed Huntington Beach Downtown Specific Plan Update will result in the potential for development of approximately 400,000 square feet of additional resident- and visitor-serving uses, as well as new residential and hotel development. The development potential identified in the proposed Downtown Specific Plan Update are as follows:

| Huntington Beach<br>Downtown Specific Plan Update<br>Maximum Development Potential | | |
|---|---|---|
| **Land Use** | **Quantity** | **Unit** |
| Retail | 213,467 | SF |
| Restaurant | 92,332 | SF |
| Office | 92,784 | SF |
| Cultural Facilities | 30,000 | SF |
| Residential | 648 | DU |
| Hotel | 235 | Rooms |

This additional development potential will take place over a 20-year build-out in the District 1 core of the Downtown Specific Plan area. The proposed mix of uses shown on the chart above will continue to allow for shared parking mixed-use synergies between complementary land uses in the downtown area, particularly at night and on weekends.




**LEGEND:**

= Private Lots: Potential for General Public Use During Off-Peak Hours

XX = Number of Spaces

(P) = Partial use of Lot

# FIGURE 15
# LOCATION OF PRIVATE BUSINESS PARKING LOTS

Kimley–Horn and Associates, Inc.

FILENAME: Sep 08, 2009 - 6:07pm K:\ORA_TPTO\ZSAC\Projects\HB Downtown Parking\Figures\Figures_September 2009.dwg

An economically viable and successful downtown combines both public and private parking opportunities to create an environment in which visitors park once, and walk to multiple destinations. Downtowns should provide sufficient, but not excessive public parking supply. Businesses should each provide the parking required to accommodate their demand – but the parking for the downtown should be considered as an interactive and shared "whole," rather than exclusive parking for individual developments.

The mixed-use nature of a downtown environment creates a shared parking environment, thus requiring fewer spaces to be provided for each individual development to accommodate the demand for business as a whole. The proposed Specific Plan Update contains reduced parking ratios for uses in the Downtown Parking Master Plan area which will continue to take these shared parking synergies between land uses into account. Proposed parking ratios for the proposed new non-residential downtown development are shown on the following chart.

**Huntington Beach**
**Downtown Specific Plan Update**
**Proposed Parking Ratios**

| Land Use | Downtown Parking Ratios | Unit |
|---|---|---|
| Retail | 3.00 | KSF |
| Restaurant – 12 or more seats | 8.00 | KSF |
| Restaurant – less than 12 seats | 3.00 | KSF |
| Office | 2.00 | KSF |
| Cultural Arts Center | 3.33 | KSF |
| Hotel | 1.1 | Room |

The recommended ratios include a reduction and a stepped approach to the parking ratios for restaurant uses in the downtown compared to the current plan – 8 spaces per KSF for restaurants with over 12 seats, and 3 per KSF for restaurants with less than 12 seats. The proposed reduction in parking ratio acknowledges the same shared parking benefits that occur amongst the mix of uses found in the downtown. A shared parking analysis of the proposed Specific Plan development and the adequacy of the future parking supply using these reduced ratios are provided in the next section of the report.

The proposed tiered ratio structure for restaurants (greater than vs. less than 12 seats) reflects the distinction between full-service restaurants, where patrons stay an extended period of time for a full-service meal; and "retail food" establishments, also known as "fast casual" food stores, where patrons order at a cash register, or select items from a food bar, and either consume the food on site over a short period of time, or take the food with them. According to the Nation's Restaurant News, these types of eating establishments represent the fastest-growing restaurant trend. This variable ratio concept is also used in the city-wide parking ratios for restaurants with greater than and less than 12 seats.

Using the proposed reduced parking ratios, the Specific Plan development potential would result in the need for approximately 1,812 additional parking spaces for the commercial, non-residential uses, based on the proposed Downtown Specific Plan parking ratios. All residential and hotel development will be required to provide all parking on-site. Non-residential and non-hotel development will be required to either provide parking on-site or satisfy some parking via an in-lieu fee, if applicable. All new development will be required to replace any existing parking lost due to redevelopment, in addition to providing any net new parking required.

Parking strategies to accommodate the parking needs for the new Specific Plan development include:

**1. Continue Reduced Parking Ratios**

The prior analysis indicated that the existing reduced parking ratios for downtown development, based on shared parking concepts, adequately meet the parking needs of the downtown businesses. A shared parking analysis using the Urban Land Institute (ULI) shared parking methodology was conducted for the existing downtown development levels to demonstrate that the mix of land uses in the downtown benefits from shared parking synergies.

A similar analysis was prepared for the proposed new development potential identified in the Specific Plan Update, including the proposed reduced parking ratios. Using the ULI Shared Parking methodology, the anticipated peak summer season parking requirement for the existing mix of development in the DPMP area, plus the new development potential identified in the proposed Specific Plan Update was analyzed. A comparison of the forecasted peak parking supply according to the ULI Shared Parking analysis methodology vs. the full parking supply that would be required for the future downtown development based on standard City parking rates is provided on the chart below. A copy of the shared parking spreadsheets is provided in the appendix to this report.

**Standard City Parking Ratios vs. ULI Shared Parking Requirements for Existing Development Plus Future Downtown Specific Plan Potential within the DPMP Area**

| Condition | Existing + Future SF [2] | Future Parking Supply [2] | Required Parking, per | | Shared Parking Benefit [1] | |
|---|---|---|---|---|---|---|
| | | | City Code | ULI Shared Parking | Spaces | %-age |
| Existing + Future Development | 1,146,224 | 4,508 | 6,458 | 4,291 | 2,167 | 33.6% |

[1] Shared Parking Benefit = Reduction in parking needed due to mixed-use synergies: City Code Required Parking minus ULI Shared Parking Required Parking = Shared Parking Benefit

[2] Square footage includes total Existing plus Future Specific Plan potential development. Future Parking Supply total includes the existing parking inventory plus parking for the new Specific Plan development potential based on proposed parking ratios.

The chart indicates that the parking supply that would be required for the existing plus the new development potential identified in the proposed Specific Plan Update by application of the full standard City parking ratios would be 6,458 parking spaces. The ULI shared parking analysis indicates that with shared parking relationships considered, the summer season peak demand for downtown businesses is forecasted to be 4,291 spaces. The proposed mix of downtown uses would continue to yield a 30%+ benefit in parking due to shared parking relationships.

The chart also indicates that the future proposed parking supply of 4,508 spaces, consisting of the existing parking inventory, plus the new parking supply for the new development based on the proposed parking ratios (including the continued reduced ratios and further reduction in restaurant ratios) would provide a cushion of over 200 spaces for the downtown businesses, indicating that the proposed use of reduced parking ratios for development in the downtown parking master plan area will continue to adequately meet the parking needs of the downtown businesses.

It should be noted once again that this shared parking analysis addresses only the parking needs for the downtown businesses. The impact of the beach and summer events on downtown and area parking, and recommended measures to address these impacts, have been addressed earlier in this report.

**2. Continue the Parking In-Lieu Fee Program**

Continue allowing developers to pay an in-lieu fee to fund the balance of their parking requirement not provided on site. This will allow downtown businesses to continue to benefit from shared parking amongst downtown businesses and share in the cost of providing public parking.

The City Council has the authority to adjust the fee amount at any time. Typically, it is adjusted annully based on the Consumer Price Index. It is recommended that the procedure to set the in-lieu fee amount stay the same as is today. The City Council could consider the fee amount at regular intervals (every 1 or 2 years). The frequency of review would likely depend upon the level of redevelopment, changes in parking demand and changes in the parking supply. The review should calculate the number of purchased spaces, record the current per space cost to construct, and update the parking demand at that time. The City should track the balance and use of collected funds, and identify how the fees collected will be used to increase and manage the supply.

**3. Build Conventional and/or Automated Structures**

One or more of the vacant parcels identified for interim use as a parking lot should be developed with a conventional or mechanical parking structure, to be used as shared public parking to accommodate the business parking requirements of new development not provided on site. New parking structures would best serve longer-term parking (such as employee parking) and should be located on the downtown periphery.

### 4. Construction Additional Public Parking on Individual Development Sites

All new development plans should be reviewed by the Economic Development department to ascertain whether or not in-lieu fees can be used to create additional on-site public parking above and beyond the required parking for the development. Look for opportunities with the redevelopment of larger parcels in the downtown to provide more parking than is required for the development itself, and to make that excess parking available to the general public on a shared-use basis.

### 5. Allow Tandem Parking

Adopt parking standards that allow residential developments to design at least some of the spaces as tandem – either side-by-side or front-and-back. For commercial uses, up to 40% of the on-site parking could be tandem parking if properly designed and managed, and subject to approval of a Conditional Use Permit by the Zoning Administrator.

To help administer and manage the implementation of these recommendations it is recommended that the City identify a staff member in the Planning Department to be the lead person responsible for managing the parking supply, implementing these parking improvements, and monitoring and adjusting policies based on results. This person would work with parking operator representatives and representatives from the downtown business community (such as the Downtown Business Improvement District) to address current and anticipated parking issues, address parking needs for special event activities, and coordinate implementation of the recommendations.

# APPENDIX A

# SHARED PARKING WORKSHEETS

## SHARED PARKING ANALYSIS

## PER THE ULI SHARED PARKING MANUAL (Second Edition - 2005)
## FOR WEEKDAY PARKING DEMAND

| PROJECT: | Huntington Beach Downtown | | | | | | | | | | | SCENARIO: | Existing Development Levels | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | RES | | RESTAURANT | | | HOTEL | | | | | | OFFICE | 157.925 | KSF | |
| LAND USE: | OFFICE | non-CBD | RETAIL | QUAL | F FOOD | THEATER | ROOM | REST. | CONF. | CONV. | | | RETAIL | 289.429 | KSF | |
| UNIT: | KSF | DU | KSF | KSF | KSF | SEAT | ROOM | KSF | KSF | KSF | | REST. - | QUAL | 125.000 | KSF | |
| QUANTITY: | 157.925 | 0 | 289.429 | 125.000 | 26.346 | 1,600 | 157 | 0.00 | 0.00 | 0.00 | | REST. - | F FOOD | 26.346 | KSF | |
| RATE: | 4 | 0 | 5 | 10 | 5 | 0.3 | 1 | 0 | 0 | 0 | TOTAL | | THEATER | 26.000 | KSF | ( SEATS: 1,600 ) |
| REQ'D PRKG | 632 | 0 | 1,447 | 1,250 | 132 | 480 | 157 | 0 | 0 | 0 | 4,098 | | HOTEL | 0.000 | KSF | ( ROOMS: 157 ) |
| Transit Center Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | RES - | Non CBD | 0 | DU | |
| W-day/W-end Factor | 1.00 | 1.00 | 0.90 | 0.90 | 1.00 | 0.83 | 0.97 | 1.00 | 1.00 | 1.00 | | | TOTAL | 624.700 | KSF | |
| Seasonal Factor | 1.00 | 1.00 | 0.69 | 0.99 | 0.99 | 0.99 | 0.75 | 0.75 | 0.75 | 0.00 | AUG | | | | | |

| | PERCENTAGE OF PEAK DEMAND BY HOUR OF DAY | | | | | | | | | | PROJECTED PARKING DEMAND BY HOUR OF DAY | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME OF | | RES | | RESTAURANT | | | HOTEL | | | | | RES | | RESTAURANT | | | HOTEL | | | | |
| DAY | OFFICE | non-CBD | RETAIL | QUAL | F FOOD | THEATER | ROOM | REST. | CONF. | CONV. | OFFICE | non-CBD | RETAIL | QUAL | F FOOD | THEATER | ROOM | REST. | CONF. | CONV. | TOTAL |
| 6:00 AM | 3% | 100% | 1% | 0% | 5% | 0% | 95% | 0% | 0% | 0% | 19 | 0 | 9 | 0 | 7 | 0 | 109 | 0 | 0 | 0 | 143 |
| 7:00 AM | 30% | 90% | 5% | 0% | 10% | 0% | 95% | 10% | 0% | 0% | 190 | 0 | 45 | 0 | 13 | 0 | 109 | 0 | 0 | 0 | 356 |
| 8:00 AM | 75% | 85% | 15% | 0% | 20% | 0% | 90% | 30% | 30% | 50% | 474 | 0 | 135 | 0 | 26 | 0 | 103 | 0 | 0 | 0 | 737 |
| 9:00 AM | 95% | 80% | 35% | 0% | 30% | 0% | 80% | 10% | 60% | 100% | 600 | 0 | 315 | 0 | 39 | 0 | 91 | 0 | 0 | 0 | 1,045 |
| 10:00 AM | 100% | 75% | 65% | 15% | 55% | 0% | 70% | 10% | 60% | 100% | 632 | 0 | 584 | 167 | 72 | 0 | 80 | 0 | 0 | 0 | 1,535 |
| 11:00 AM | 100% | 70% | 85% | 40% | 85% | 0% | 70% | 5% | 60% | 100% | 632 | 0 | 764 | 446 | 111 | 0 | 80 | 0 | 0 | 0 | 2,032 |
| 12:00 AM | 90% | 65% | 95% | 75% | 100% | 20% | 65% | 100% | 65% | 100% | 569 | 0 | 854 | 835 | 130 | 79 | 74 | 0 | 0 | 0 | 2,541 |
| 1:00 PM | 90% | 70% | 100% | 75% | 100% | 45% | 65% | 100% | 65% | 100% | 569 | 0 | 899 | 835 | 130 | 177 | 74 | 0 | 0 | 0 | 2,685 |
| 2:00 PM | 100% | 70% | 95% | 65% | 90% | 55% | 70% | 33% | 65% | 100% | 632 | 0 | 854 | 724 | 117 | 217 | 80 | 0 | 0 | 0 | 2,624 |
| 3:00 PM | 100% | 70% | 90% | 40% | 60% | 55% | 70% | 10% | 65% | 100% | 632 | 0 | 809 | 446 | 78 | 217 | 80 | 0 | 0 | 0 | 2,261 |
| 4:00 PM | 90% | 75% | 90% | 50% | 55% | 55% | 75% | 10% | 65% | 100% | 569 | 0 | 809 | 557 | 72 | 217 | 86 | 0 | 0 | 0 | 2,309 |
| 5:00 PM | 50% | 85% | 95% | 75% | 60% | 60% | 80% | 30% | 100% | 100% | 316 | 0 | 854 | 835 | 78 | 237 | 91 | 0 | 0 | 0 | 2,411 |
| 6:00 PM | 25% | 90% | 95% | 95% | 85% | 60% | 85% | 55% | 100% | 50% | 158 | 0 | 854 | 1,058 | 111 | 237 | 97 | 0 | 0 | 0 | 2,514 |
| 7:00 PM | 10% | 97% | 95% | 100% | 80% | 80% | 85% | 60% | 100% | 30% | 63 | 0 | 854 | 1,114 | 104 | 316 | 97 | 0 | 0 | 0 | 2,548 |
| 8:00 PM | 7% | 98% | 80% | 100% | 50% | 100% | 90% | 70% | 100% | 30% | 44 | 0 | 719 | 1,114 | 65 | 394 | 103 | 0 | 0 | 0 | 2,439 |
| 9:00 PM | 3% | 99% | 50% | 100% | 30% | 100% | 95% | 67% | 100% | 10% | 19 | 0 | 449 | 1,114 | 39 | 394 | 109 | 0 | 0 | 0 | 2,124 |
| 10:00 PM | 1% | 100% | 30% | 95% | 20% | 80% | 95% | 60% | 50% | 0% | 6 | 0 | 270 | 1,058 | 26 | 316 | 109 | 0 | 0 | 0 | 1,784 |
| 11:00 PM | 0% | 100% | 10% | 75% | 10% | 65% | 100% | 40% | 0% | 0% | 0 | 0 | 90 | 835 | 13 | 256 | 114 | 0 | 0 | 0 | 1,309 |
| 12:00 PM | 0% | 100% | 0% | 25% | 5% | 40% | 100% | 30% | 0% | 0% | 0 | 0 | 0 | 278 | 7 | 158 | 114 | 0 | 0 | 0 | 557 |

PROJECTED PEAK PARKING DEMAND = **2,685** AT 1:00 PM
UNADJUSTED PEAK PARKING DEMAND = 4,098
PARKING ADJUSTMENT DUE TO SHARED PARKING = 1,413 34%

08-Sep-09
FILENAME: SHAREDPK.WK4

## SHARED PARKING ANALYSIS

## PER THE ULI SHARED PARKING MANUAL (Second Edition - 2005)
## FOR WEEKEND PARKING DEMAND

| PROJECT: | Huntington Beach Downtown | | | | | | | | | | | SCENARIO: | Existing Development Levels | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | RES | | RESTAURANT | | | HOTEL | | | | | | OFFICE | 157.925 | KSF | | | |
| LAND USE: | OFFICE | non-CBD | RETAIL | QUAL | F FOOD | THEATER | ROOM | REST. | CONF. | CONV. | | | RETAIL | 289.429 | KSF | | | |
| UNIT: | KSF | DU | KSF | KSF | KSF | SEAT | ROOM | KSF | KSF | KSF | | REST. - | QUAL | 125.000 | KSF | | | |
| QUANTITY: | 157.925 | 0 | 289.429 | 125.000 | 26.346 | 1,600 | 157 | 0.00 | 0.00 | 0.00 | | REST. - | F FOOD | 26.346 | KSF | | | |
| RATE: | 4 | 0 | 5 | 10 | 5 | 0.3 | 1 | 0 | 0 | 0 | TOTAL | | THEATER | 26.000 | KSF | ( SEATS: | 1,600 | ) |
| REQ'D PRKG | 632 | 0 | 1,447 | 1,250 | 132 | 480 | 157 | 0 | 0 | 0 | 4,098 | | HOTEL | 0.000 | KSF | ( ROOMS: | 157 | ) |
| Transit Center Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | RES - | non-CBD | 0 | DU | | | |
| W-day/W-end Factor | 0.17 | 0.17 | 1.00 | 1.00 | 0.93 | 1.00 | 1.00 | 1.00 | 1.00 | 0.50 | | | TOTAL | 624.700 | KSF | | | |
| Seasonal Factor | 1.00 | 1.00 | 0.69 | 0.99 | 0.99 | 0.40 | 1.00 | 1.00 | 1.00 | 0.00 | AUG | | | | | | | |

| | PERCENTAGE OF PEAK DEMAND BY HOUR OF DAY | | | | | | | | | | PROJECTED PARKING DEMAND BY HOUR OF DAY | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME OF | | RES | | RESTAURANT | | | HOTEL | | | | | RES | | RESTAURANT | | | HOTEL | | | | |
| DAY | OFFICE | non-CBD | RETAIL | QUAL | F FOOD | THEATER | ROOM | REST. | CONF. | CONV. | OFFICE | non-CBD | RETAIL | QUAL | F FOOD | THEATER | ROOM | REST. | CONF. | CONV. | TOTAL |
| 6:00 AM | 0% | 100% | 1% | 0% | 5% | 0% | 95% | 0% | 0% | 0% | 0 | 0 | 10 | 0 | 6 | 0 | 149 | 0 | 0 | 0 | 165 |
| 7:00 AM | 20% | 90% | 5% | 0% | 10% | 0% | 95% | 10% | 0% | 0% | 21 | 0 | 50 | 0 | 12 | 0 | 149 | 0 | 0 | 0 | 233 |
| 8:00 AM | 60% | 85% | 10% | 0% | 20% | 0% | 90% | 30% | 30% | 50% | 64 | 0 | 100 | 0 | 24 | 0 | 141 | 0 | 0 | 0 | 330 |
| 9:00 AM | 80% | 80% | 30% | 0% | 30% | 0% | 80% | 10% | 60% | 100% | 86 | 0 | 300 | 0 | 36 | 0 | 126 | 0 | 0 | 0 | 547 |
| 10:00 AM | 90% | 75% | 50% | 0% | 55% | 0% | 70% | 10% | 60% | 100% | 97 | 0 | 499 | 0 | 67 | 0 | 110 | 0 | 0 | 0 | 773 |
| 11:00 AM | 100% | 70% | 65% | 15% | 85% | 0% | 70% | 5% | 60% | 100% | 107 | 0 | 649 | 186 | 103 | 0 | 110 | 0 | 0 | 0 | 1,155 |
| 12:00 AM | 90% | 65% | 80% | 50% | 100% | 20% | 65% | 100% | 65% | 100% | 97 | 0 | 799 | 619 | 121 | 38 | 102 | 0 | 0 | 0 | 1,776 |
| 1:00 PM | 80% | 70% | 90% | 55% | 100% | 45% | 65% | 100% | 65% | 100% | 86 | 0 | 899 | 681 | 121 | 86 | 102 | 0 | 0 | 0 | 1,975 |
| 2:00 PM | 60% | 70% | 100% | 45% | 90% | 55% | 70% | 33% | 65% | 100% | 64 | 0 | 999 | 557 | 109 | 106 | 110 | 0 | 0 | 0 | 1,944 |
| 3:00 PM | 40% | 70% | 100% | 45% | 60% | 55% | 70% | 10% | 65% | 100% | 43 | 0 | 999 | 557 | 73 | 106 | 110 | 0 | 0 | 0 | 1,887 |
| 4:00 PM | 20% | 75% | 95% | 45% | 55% | 55% | 75% | 10% | 65% | 100% | 21 | 0 | 949 | 557 | 67 | 106 | 118 | 0 | 0 | 0 | 1,817 |
| 5:00 PM | 10% | 85% | 90% | 60% | 60% | 60% | 80% | 30% | 100% | 100% | 11 | 0 | 899 | 743 | 73 | 115 | 126 | 0 | 0 | 0 | 1,965 |
| 6:00 PM | 5% | 90% | 80% | 90% | 85% | 60% | 85% | 55% | 100% | 50% | 5 | 0 | 799 | 1,114 | 103 | 115 | 133 | 0 | 0 | 0 | 2,270 |
| 7:00 PM | 0% | 97% | 75% | 95% | 80% | 80% | 85% | 60% | 100% | 30% | 0 | 0 | 749 | 1,176 | 97 | 154 | 133 | 0 | 0 | 0 | 2,309 |
| 8:00 PM | 0% | 98% | 65% | 100% | 50% | 100% | 90% | 70% | 100% | 30% | 0 | 0 | 649 | 1,238 | 61 | 192 | 141 | 0 | 0 | 0 | 2,280 |
| 9:00 PM | 0% | 99% | 50% | 90% | 30% | 100% | 95% | 67% | 100% | 10% | 0 | 0 | 499 | 1,114 | 36 | 192 | 149 | 0 | 0 | 0 | 1,991 |
| 10:00 PM | 0% | 100% | 35% | 90% | 20% | 100% | 95% | 60% | 50% | 0% | 0 | 0 | 349 | 1,114 | 24 | 192 | 149 | 0 | 0 | 0 | 1,829 |
| 11:00 PM | 0% | 100% | 15% | 90% | 10% | 80% | 100% | 10% | 0% | 0% | 0 | 0 | 150 | 1,114 | 12 | 154 | 157 | 0 | 0 | 0 | 1,586 |
| 12:00 PM | 0% | 100% | 0% | 50% | 5% | 50% | 100% | 30% | 0% | 0% | 0 | 0 | 0 | 619 | 6 | 96 | 157 | 0 | 0 | 0 | 878 |

| | | | |
|---|---|---|---|
| PROJECTED PEAK PARKING DEMAND = | **2,309** | AT | 7:00 PM |
| UNADJUSTED PEAK PARKING DEMAND = | 4,098 | | |
| PARKING ADJUSTMENT DUE TO SHARED PARKING = | 1,789 | 44% | |

08-Sep-09
FILENAME: SHAREDPK.WK4

## SHARED PARKING ANALYSIS

## PER THE ULI SHARED PARKING MANUAL (Second Edition - 2005)
## FOR WEEKDAY PARKING DEMAND

| PROJECT: | Huntington Beach Downtown | | | | | | | | | | SCENARIO: | Future with Addiitonal Square Footage per Specific Plan Update |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | RES | | RESTAURANT | | | HOTEL | | | | | OFFICE 250.709 KSF |
| LAND USE: | OFFICE | non-CBD | RETAIL | QUAL | F FOOD | THEATER | ROOM | REST. | CONF. | CONV. | | RETAIL 476.896 KSF |
| UNIT: | KSF | DU | KSF | KSF | KSF | SEAT | ROOM | KSF | KSF | KSF | | REST. - QUAL 196.346 KSF |
| QUANTITY: | 250.709 | 0 | 476.896 | 196.346 | 47.332 | 1,600 | 392 | 0.00 | 0.00 | 0.00 | | REST. - F FOOD 47.332 KSF |
| RATE: | 4 | 0 | 5 | 10 | 5 | 0.3 | 1 | 0 | 0 | 0 | TOTAL | THEATER 26.000 KSF ( SEATS: 1,600 ) |
| REQ'D PRKG | 1,001 | 0 | 2,384 | 1,963 | 237 | 480 | 392 | 0 | 0 | 0 | 6,458 | HOTEL 0.000 KSF ( ROOMS: 392 ) |
| Transit Center Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | RES - Non CBD 0 DU |
| W-day/W-end Factor | 1.00 | 1.00 | 0.90 | 0.90 | 1.00 | 0.83 | 0.97 | 1.00 | 1.00 | 1.00 | | TOTAL 997.283 KSF |
| Seasonal Factor | 1.00 | 1.00 | 0.69 | 0.99 | 0.99 | 0.99 | 0.75 | 0.75 | 0.75 | 0.00 | AUG | |

| | PERCENTAGE OF PEAK DEMAND BY HOUR OF DAY | | | | | | | | | | PROJECTED PARKING DEMAND BY HOUR OF DAY | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | RES | | RESTAURANT | | | HOTEL | | | | | RES | | RESTAURANT | | | HOTEL | | | | |
| TIME OF DAY | OFFICE | non-CBD | RETAIL | QUAL | F FOOD | THEATER | ROOM | REST. | CONF. | CONV. | OFFICE | non-CBD | RETAIL | QUAL | F FOOD | THEATER | ROOM | REST. | CONF. | CONV. | TOTAL |
| 6:00 AM | 3% | 100% | 1% | 0% | 5% | 0% | 95% | 0% | 0% | 0% | 30 | 0 | 15 | 0 | 12 | 0 | 271 | 0 | 0 | 0 | 327 |
| 7:00 AM | 30% | 90% | 5% | 0% | 10% | 0% | 95% | 10% | 0% | 0% | 300 | 0 | 74 | 0 | 23 | 0 | 271 | 0 | 0 | 0 | 669 |
| 8:00 AM | 75% | 85% | 15% | 0% | 20% | 0% | 90% | 30% | 30% | 50% | 751 | 0 | 222 | 0 | 47 | 0 | 257 | 0 | 0 | 0 | 1,277 |
| 9:00 AM | 95% | 80% | 35% | 0% | 30% | 0% | 80% | 10% | 60% | 100% | 951 | 0 | 518 | 0 | 70 | 0 | 228 | 0 | 0 | 0 | 1,768 |
| 10:00 AM | 100% | 75% | 65% | 15% | 55% | 0% | 70% | 10% | 60% | 100% | 1,001 | 0 | 962 | 262 | 129 | 0 | 200 | 0 | 0 | 0 | 2,555 |
| 11:00 AM | 100% | 70% | 85% | 40% | 85% | 0% | 70% | 5% | 60% | 100% | 1,001 | 0 | 1,259 | 700 | 199 | 0 | 200 | 0 | 0 | 0 | 3,359 |
| 12:00 AM | 90% | 65% | 95% | 75% | 100% | 20% | 65% | 100% | 65% | 100% | 901 | 0 | 1,407 | 1,312 | 234 | 79 | 185 | 0 | 0 | 0 | 4,119 |
| 1:00 PM | 90% | 70% | 100% | 75% | 100% | 45% | 65% | 100% | 65% | 100% | 901 | 0 | 1,481 | 1,312 | 234 | 177 | 185 | 0 | 0 | 0 | 4,291 |
| 2:00 PM | 100% | 70% | 95% | 65% | 90% | 55% | 70% | 33% | 65% | 100% | 1,001 | 0 | 1,407 | 1,137 | 211 | 217 | 200 | 0 | 0 | 0 | 4,173 |
| 3:00 PM | 100% | 70% | 90% | 40% | 60% | 55% | 70% | 10% | 65% | 100% | 1,001 | 0 | 1,333 | 700 | 141 | 217 | 200 | 0 | 0 | 0 | 3,591 |
| 4:00 PM | 90% | 75% | 90% | 50% | 55% | 55% | 75% | 10% | 65% | 100% | 901 | 0 | 1,333 | 875 | 129 | 217 | 214 | 0 | 0 | 0 | 3,668 |
| 5:00 PM | 50% | 85% | 95% | 75% | 60% | 60% | 80% | 30% | 100% | 100% | 501 | 0 | 1,407 | 1,312 | 141 | 237 | 228 | 0 | 0 | 0 | 3,825 |
| 6:00 PM | 25% | 90% | 95% | 95% | 85% | 60% | 85% | 55% | 100% | 50% | 250 | 0 | 1,407 | 1,662 | 199 | 237 | 242 | 0 | 0 | 0 | 3,997 |
| 7:00 PM | 10% | 97% | 95% | 100% | 80% | 80% | 85% | 60% | 100% | 30% | 100 | 0 | 1,407 | 1,749 | 187 | 316 | 242 | 0 | 0 | 0 | 4,002 |
| 8:00 PM | 7% | 98% | 80% | 100% | 50% | 100% | 90% | 70% | 100% | 30% | 70 | 0 | 1,185 | 1,749 | 117 | 394 | 257 | 0 | 0 | 0 | 3,772 |
| 9:00 PM | 3% | 99% | 50% | 100% | 30% | 100% | 95% | 67% | 100% | 10% | 30 | 0 | 740 | 1,749 | 70 | 394 | 271 | 0 | 0 | 0 | 3,255 |
| 10:00 PM | 1% | 100% | 30% | 95% | 20% | 80% | 95% | 60% | 50% | 0% | 10 | 0 | 444 | 1,662 | 47 | 316 | 271 | 0 | 0 | 0 | 2,750 |
| 11:00 PM | 0% | 100% | 10% | 75% | 10% | 65% | 100% | 40% | 0% | 0% | 0 | 0 | 148 | 1,312 | 23 | 256 | 285 | 0 | 0 | 0 | 2,025 |
| 12:00 PM | 0% | 100% | 0% | 25% | 5% | 40% | 100% | 30% | 0% | 0% | 0 | 0 | 0 | 437 | 12 | 158 | 285 | 0 | 0 | 0 | 892 |

| | | | |
|---|---|---|---|
| PROJECTED PEAK PARKING DEMAND = | **4,291** | AT | 1:00 PM |
| UNADJUSTED PEAK PARKING DEMAND = | 6,458 | | |
| PARKING ADJUSTMENT DUE TO SHARED PARKING = | 2,167 | 33.6% | |

08-Sep-09
FILENAME: SHAREDPK.WK4

## SHARED PARKING ANALYSIS

## PER THE ULI SHARED PARKING MANUAL (Second Edition - 2005)
## FOR WEEKEND PARKING DEMAND

| PROJECT: | Huntington Beach Downtown | | | | | | | | | | | SCENARIO: | Future with Addiitonal Square Footage per Specific Plan Update | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | RES | | RESTAURANT | | | HOTEL | | | | | | OFFICE | 250.709 | KSF | | |
| LAND USE: | OFFICE | non-CBD | RETAIL | QUAL | F FOOD | THEATER | ROOM | REST. | CONF. | CONV. | | | RETAIL | 476.896 | KSF | | |
| UNIT: | KSF | DU | KSF | KSF | KSF | SEAT | ROOM | KSF | KSF | KSF | | REST. - | QUAL | 196.346 | KSF | | |
| QUANTITY: | 250.709 | 0 | 476.896 | 196.346 | 47.332 | 1,600 | 392 | 0.00 | 0.00 | 0.00 | | REST. - | F FOOD | 47.332 | KSF | | |
| RATE: | 4 | 0 | 5 | 10 | 5 | 0.3 | 1 | 0 | 0 | 0 | TOTAL | | THEATER | 26.000 | KSF | ( SEATS: | 1,600 ) |
| REQ'D PRKG | 1,003 | 0 | 2,384 | 1,963 | 237 | 480 | 392 | 0 | 0 | 0 | 6,459 | | HOTEL | 0.000 | KSF | ( ROOMS: | 392 ) |
| Transit Center Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | RES - | non-CBD | 0 | DU | | |
| W-day/W-end Factor | 0.17 | 0.17 | 1.00 | 1.00 | 0.93 | 1.00 | 1.00 | 1.00 | 1.00 | 0.50 | | | TOTAL | 997.283 | KSF | | |
| Seasonal Factor | 1.00 | 1.00 | 0.69 | 0.99 | 0.99 | 0.40 | 1.00 | 1.00 | 1.00 | 0.00 | AUG | | | | | | |

| | PERCENTAGE OF PEAK DEMAND BY HOUR OF DAY | | | | | | | | | | PROJECTED PARKING DEMAND BY HOUR OF DAY | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME OF | | RES | | RESTAURANT | | | HOTEL | | | | | RES | | RESTAURANT | | | HOTEL | | | | |
| DAY | OFFICE | non-CBD | RETAIL | QUAL | F FOOD | THEATER | ROOM | REST. | CONF. | CONV. | OFFICE | non-CBD | RETAIL | QUAL | F FOOD | THEATER | ROOM | REST. | CONF. | CONV. | TOTAL |
| 6:00 AM | 0% | 100% | 1% | 0% | 5% | 0% | 95% | 0% | 0% | 0% | 0 | 0 | 16 | 0 | 11 | 0 | 372 | 0 | 0 | 0 | 400 |
| 7:00 AM | 20% | 90% | 5% | 0% | 10% | 0% | 95% | 10% | 0% | 0% | 34 | 0 | 82 | 0 | 22 | 0 | 372 | 0 | 0 | 0 | 511 |
| 8:00 AM | 60% | 85% | 10% | 0% | 20% | 0% | 90% | 30% | 30% | 50% | 102 | 0 | 165 | 0 | 44 | 0 | 353 | 0 | 0 | 0 | 663 |
| 9:00 AM | 80% | 80% | 30% | 0% | 30% | 0% | 80% | 10% | 60% | 100% | 136 | 0 | 494 | 0 | 65 | 0 | 314 | 0 | 0 | 0 | 1,009 |
| 10:00 AM | 90% | 75% | 50% | 0% | 55% | 0% | 70% | 10% | 60% | 100% | 153 | 0 | 823 | 0 | 120 | 0 | 274 | 0 | 0 | 0 | 1,370 |
| 11:00 AM | 100% | 70% | 65% | 15% | 85% | 0% | 70% | 5% | 60% | 100% | 170 | 0 | 1,069 | 292 | 185 | 0 | 274 | 0 | 0 | 0 | 1,991 |
| 12:00 AM | 90% | 65% | 80% | 50% | 100% | 20% | 65% | 100% | 65% | 100% | 153 | 0 | 1,316 | 972 | 218 | 38 | 255 | 0 | 0 | 0 | 2,952 |
| 1:00 PM | 80% | 70% | 90% | 55% | 100% | 45% | 65% | 100% | 65% | 100% | 136 | 0 | 1,481 | 1,069 | 218 | 86 | 255 | 0 | 0 | 0 | 3,245 |
| 2:00 PM | 60% | 70% | 100% | 45% | 90% | 55% | 70% | 33% | 65% | 100% | 102 | 0 | 1,645 | 875 | 196 | 106 | 274 | 0 | 0 | 0 | 3,198 |
| 3:00 PM | 40% | 70% | 100% | 45% | 60% | 55% | 70% | 10% | 65% | 100% | 68 | 0 | 1,645 | 875 | 131 | 106 | 274 | 0 | 0 | 0 | 3,099 |
| 4:00 PM | 20% | 75% | 95% | 45% | 55% | 55% | 75% | 10% | 65% | 100% | 34 | 0 | 1,563 | 875 | 120 | 106 | 294 | 0 | 0 | 0 | 2,991 |
| 5:00 PM | 10% | 85% | 90% | 60% | 60% | 60% | 80% | 30% | 100% | 100% | 17 | 0 | 1,481 | 1,166 | 131 | 115 | 314 | 0 | 0 | 0 | 3,224 |
| 6:00 PM | 5% | 90% | 80% | 90% | 85% | 60% | 85% | 55% | 100% | 50% | 9 | 0 | 1,316 | 1,749 | 185 | 115 | 333 | 0 | 0 | 0 | 3,708 |
| 7:00 PM | 0% | 97% | 75% | 95% | 80% | 80% | 85% | 60% | 100% | 30% | 0 | 0 | 1,234 | 1,847 | 174 | 154 | 333 | 0 | 0 | 0 | 3,742 |
| 8:00 PM | 0% | 98% | 65% | 100% | 50% | 100% | 90% | 70% | 100% | 30% | 0 | 0 | 1,069 | 1,944 | 109 | 192 | 353 | 0 | 0 | 0 | 3,667 |
| 9:00 PM | 0% | 99% | 50% | 90% | 30% | 100% | 95% | 67% | 100% | 10% | 0 | 0 | 823 | 1,749 | 65 | 192 | 372 | 0 | 0 | 0 | 3,202 |
| 10:00 PM | 0% | 100% | 35% | 90% | 20% | 100% | 95% | 60% | 50% | 0% | 0 | 0 | 576 | 1,749 | 44 | 192 | 372 | 0 | 0 | 0 | 2,933 |
| 11:00 PM | 0% | 100% | 15% | 90% | 10% | 80% | 100% | 10% | 0% | 0% | 0 | 0 | 247 | 1,749 | 22 | 154 | 392 | 0 | 0 | 0 | 2,564 |
| 12:00 PM | 0% | 100% | 0% | 50% | 5% | 50% | 100% | 30% | 0% | 0% | 0 | 0 | 0 | 972 | 11 | 96 | 392 | 0 | 0 | 0 | 1,471 |

| | | | |
|---|---|---|---|
| PROJECTED PEAK PARKING DEMAND = | **3,742** | AT | 7:00 PM |
| UNADJUSTED PEAK PARKING DEMAND = | 6,459 | | |
| PARKING ADJUSTMENT DUE TO SHARED PARKING = | 2,718 | 42% | |

08-Sep-09
FILENAME: SHAREDPK.WK4